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VOLUME 44, NO. 21
OCTOBER 10, 1955

AMERICAN

DYESTUFF REPORTER

Devoted to Textile Chemistry
BLEACHING · DYEING · PRINTING · FINISHING

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non-yellowing; cationic softener

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ATLAS-OMETERS

for more than 25 years the textile industry's standard machines for testing

★ color fastness
★ shrinkage
★ detergency
★ bleeding
★ resistance to mechanical action, etc.

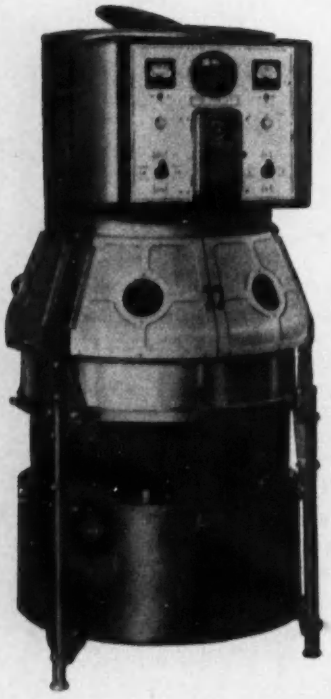
LAUNDER-OMETERS

As the standard washing machine of the A.A.T.C.C., the Launder-Ometer is used to reproduce quickly the destructive effects of commercial laundering practices on all types of fabrics. The New Metal Specimen Containers and Adaptor Plates now available for use in the 2A, 3A, and 4A Washfastness Test were designed to reproduce in one forty-five minute test the effects of five commercial launderings. Under these accelerated conditions, factual information is obtained that enables manufacturers to accurately predict color fastness to soaps and detergents, and resistance to bleeding, shrinking, washing and mechanical action. In addition, the Launder-Ometer is used for dyeing tests at boiling point.

Precision controls in the Launder-Ometer permit careful regulation of all factors, and identical reproduction of tests whenever desired. With its big capacity, the machine permits as many as 20 tests to be run simultaneously. The Atlas Pre-heating Loading Table—standard equipment on Launder-Ometers—makes it possible to start all tests at the same temperature, for greater accuracy. Mechanical action is provided by the introduction of stainless steel spheres into each container.

Located behind the Pre-heating Table, at the most convenient height, is the modern control cabinet housing all switches, pilot lights, indicating and control instruments, and direct-reading dial type thermometer. Launder-Ometers are available for use with electricity, steam, gas, or both electricity and steam for heating the water bath.

In the Launder-Ometer, all sheet metal parts coming into direct contact with water, including the test chamber and cover, and pre-heating loading table are constructed of stainless steel for permanent resistance to corrosion.



FADE-OMETERS

The Fade-Ometer brings under laboratory control the deteriorating action of sunlight on any material or type of finish. Used primarily to measure the light fastness of colors, the Fade-Ometer is also used to determine other photochemical changes caused by exposure to sunlight.

In making tests, samples in masked holders are rotated around an Atlas Carbon Arc — the closest approach to natural sunlight — at a fixed distance from the arc and at a constant speed in order to assure equal distribution of light to each sample. Upper and lower suspension rings keep samples in proper vertical alignment. Color fastness is measured in terms of Standard Fading Hours, using new calibration paper.

Operation of the Fade-Ometer is fully automatic. The simple, but complete control panel includes voltmeter, ammeter, running time meter, time switch, thermo-regulator, pilot lights and switches, which serve to keep all variable factors — time, temperature, and light — under accurate control.

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ATLAS ELECTRIC DEVICES COMPANY **4114 N. Ravenswood Ave., Chicago 13, Ill.**

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National Chromolan Brown R, like most National Chromolan Dyes, is especially recommended for dyeing unneutralized carbonized wools and for level dyeing chlorinated woolens. Applied from a strongly acid bath, it produces chocolate brown shades having very good to excellent fastness to light, all types of domestic washing and mill processing operations.

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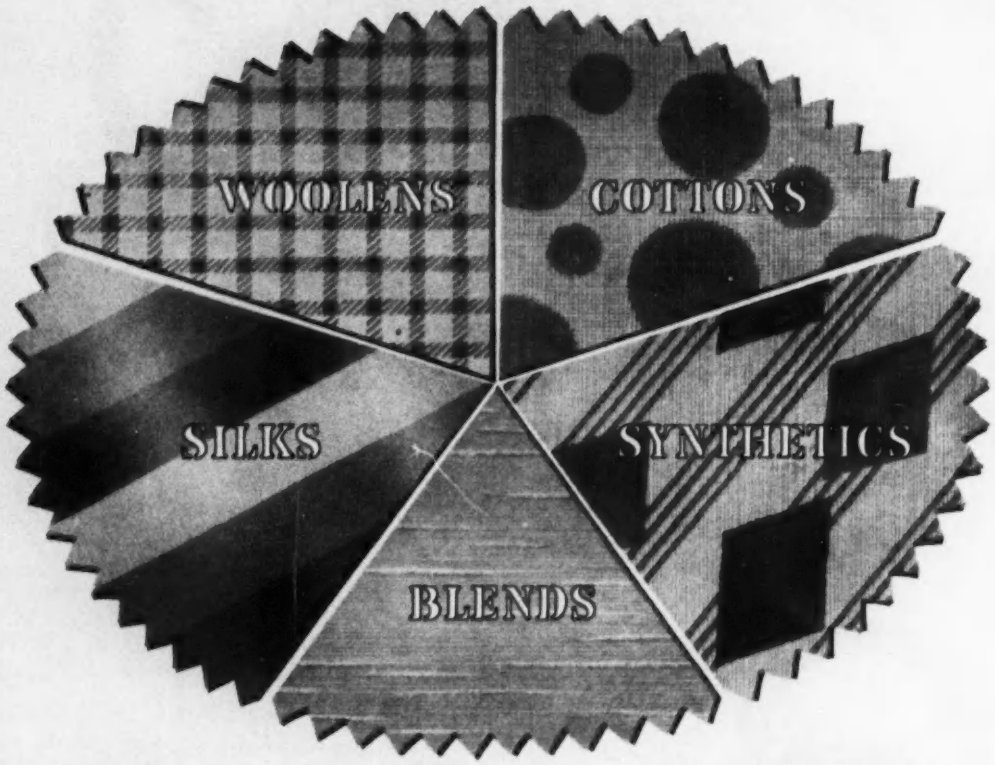

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Because—it gives a better final result . . . 92% Sodium Oleate . . . titer on the fatty acids 10° Centigrade . . . easily dissolved . . . excellent detergent effect . . . mild fulling action when you want it. Easily rinsed at low temperatures with no bad odor left in the fabric.

Yes, you can depend on COLGATE FORMULA 10* for dozens of textile processing and finishing jobs.

For low-temperature washing *ordinarily requiring olive oil soaps*, we recommend COLGATE FORMULA 25.*

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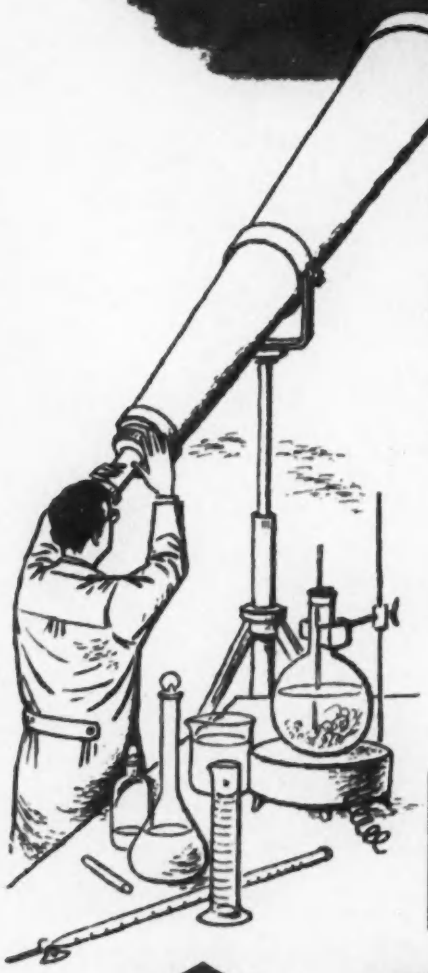

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Swift's experience gained in day to day *living* with textile problems have resulted in a diversified line of soap products that are *geared* to today's practiced skills of dyeing, fulling and scouring. There's a Swift's Soap for the textile finishing job regardless of temperature; or for use where fine dyeing calls for complete, yet gentle scouring. There's one for *your* set of requirements . . . one to give sure, skilled and experienced service where fine woolens need the right treatment.

Yes, Swift's Soaps treat fine woolens *right* . . . and Swift's salesmen will treat *you* right . . . 375 Swift's distribution points throughout the U.S. and Canada can provide prompt, courteous, *resourceful* service on the products listed at left. Write or call for further details today and remember . . .

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Swift
1855 CENTENNIAL 1955
TO SERVE YOUR INDUSTRY BETTER

Announcing a new testing program for fabrics finished with "ZESET"

Only fabrics tested and approved by Better Fabrics Testing Bureau will be awarded this new "ZESET" tag

To maintain the position of Du Pont "ZESET" fabric stabilizer as an outstanding crease-resistant finish, a new Quality-Testing Program has been set up. This new program is designed for one thing, and one thing only—to assure finishers, converters, cutters, retailers and consumers the full benefits of Du Pont "ZESET."

FABRICS TO BE TESTED

Here's how this Quality-Testing Program will work. Samples of cotton and rayon fabrics treated with Du Pont "ZESET" fabric stabilizer will be submitted to the Better Fabrics Bureau for approval. Fabric samples will be tested for (A) crease resistance, (B) shrinkage control, (C) tensile or tear strength, (D) colorfastness to washing.

NEW TAG A BADGE OF QUALITY

Only those fabrics which meet the high standards of these tests will be allowed to wear the mark-of-quality "ZESET" tag.

This new "ZESET" tag will give everyone complete assurance that the fabric possesses all the advantages of "ZESET," including *better* wrinkle resistance, a *choice* of soft or crisp hand, a *facility* for accurate cutting.

WRITE FOR FURTHER INFORMATION

For more detailed information on this important new program, just write E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington 98, Delaware, or your nearest Dyes and Chemicals District Office.

DU PONT

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...THROUGH CHEMISTRY

DU PONT **ZESET** FABRIC STABILIZER

REG. U. S. PAT. OFF.

For fabrics that shake off wrinkles

NOW! a New Low Cost, Low Calcium Brine!

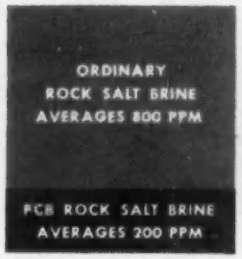
Available in Bags and Bulk

● Saves money on sequestering agents! ● Eliminates streaks and off-shading! ● Increases color intensity!

MORTON "PCB" is a new, patented rock salt product. It contains southern rock salt, plus special chemical compounds in pelletized form to give a controlled dissolving rate. The purpose of this combination is to keep harmful calcium deposits from going into solution, and thus eliminate them from the brine.

As the chart below shows, "PCB" Rock Salt brine contains approximately 80% *less calcium* than brine made with untreated rock salt. (The less than 200 PPM calcium in "PCB" brine will not precipitate.) What's more, "PCB" can be used in your present rock salt dissolving equipment without additional construction or extra labor.

"PCB" is specifically recommended when brine is used in dyeing rawstock, package, beam, beck or jig with either sulphur, direct or naphthol dyes. ("PCB" brine also can be used effectively in your water softener.)



PPM Calcium in Brine

Brine made from ordinary rock salt contains approximately 4 times more calcium than brine made with new "PCB".

"PCB" Brine

• Improves crock fastness with naphthol dyes • Increases color intensity where sulphur dyes are used • Results in softer finishes, more even shades • Saves money on sequestering agents • Aids in retarding corrosion • Is far less expensive than brine produced from purified low calcium evaporated salt.

FREE! Let a Morton Brine Engineer take a sample of your brine. He'll have it analyzed in Morton's laboratory and tell you how much you can reduce the calcium content by using "PCB" Salt.

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☐ Please send me your free booklet on "PCB."
☐ I would also like a Morton Brine Engineer to make an analysis of the brine in my plant.

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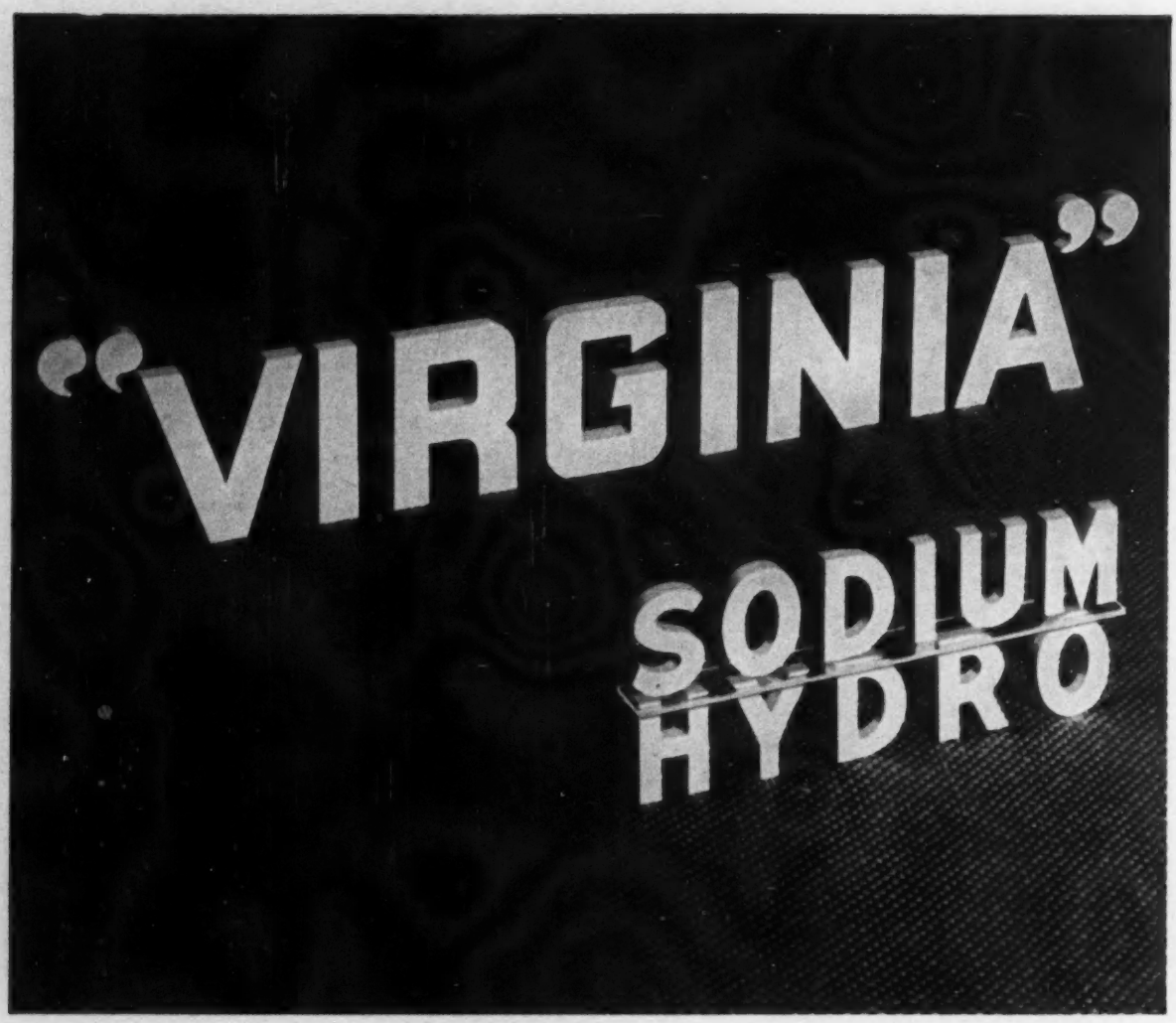

helps you accurately match your shades from run to run

You will have unusually satisfactory color uniformity when you use "Virginia" Sodium Hydro. Leading textile mills have been quick to recognize and appreciate these controlled qualities of "Virginia" Hydro:

- uniformly crystalline
- easily soluble
- standard strength
- free flowing

They know that its high strength and uniformity of quality, drum after drum, gives them consistently satisfactory performance. They like its stability in storage and in the vat. You can have the same dependable results in your dye-bath with "Virginia" Hydro.

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Send today for literature and a test sample of "Virginia" Hydro. Better yet, have one of our experienced technical men call to discuss your hydro requirements in detail.

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Don't have to tell you what our WICA resins will do to boost the value of your tags. Customer faith in those tags is like money in the bank. Wica Chemicals, Inc., Old Concord Road, Charlotte, N. C.

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First Choice for Printing Dress Goods

Printers of cotton dress goods have long been aware of the many advantages of Aridye Colors . . . the bright shades, sharp lines and pegs, smooth blotches, excellent all-round fastness, economy, and ease of application.

Now Aridye Colors are becoming the first choice of printers of rayon, acetate, nylon, and Dacron dress goods. With the improved Aridye Colors of today, they are able to produce prints on synthetics which meet all consumer requirements for fastness to washing, fastness to light, and fastness to crocking. Special Aridye Colors and Clears have been developed specifically to provide excellent crinkle effects on nylon . . . outstanding discharge effects on either rayon or acetate.

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QUADRAFOS® (Sodium Tetraphosphate)

METAFOS® (Sodium Metaphosphate) Excellent sequestering agents, dispersing agents, deflocculants and assistants for emulsifiers and detergents.

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QUADRENE — Liquid soap containing solvents. Jig, beck, kier caustic saturator.

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#65 PLISSE — fine particle — fast swelling.

#80 PLISSE — ready to use — gum and 50% caustic — convenience with controlled uniformity.

#200 VAT—15%—25% higher color yield.

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QUADRAPEL R — renewable, low foaming, water-repellent — excellent emulsion stability — easily applied.

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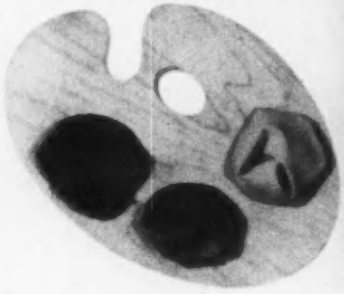
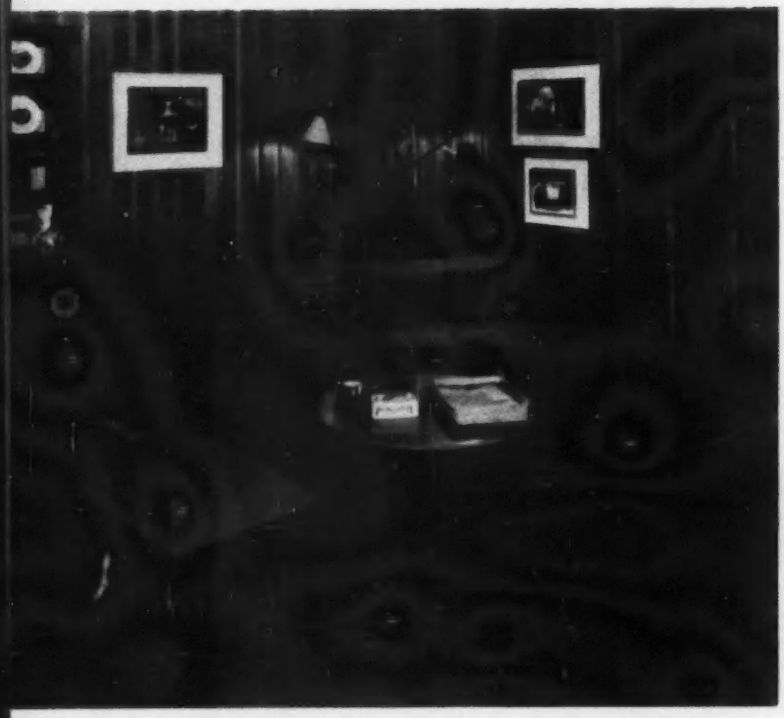


FABRICS OF DISTINCTION DESERVE



Colors of Distinction

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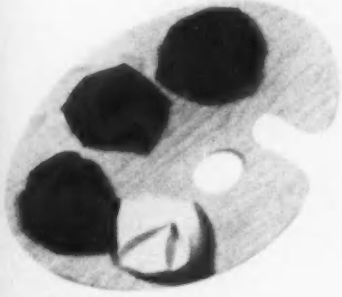

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AHCOVAT VIOLET XBN

JADE GREENS
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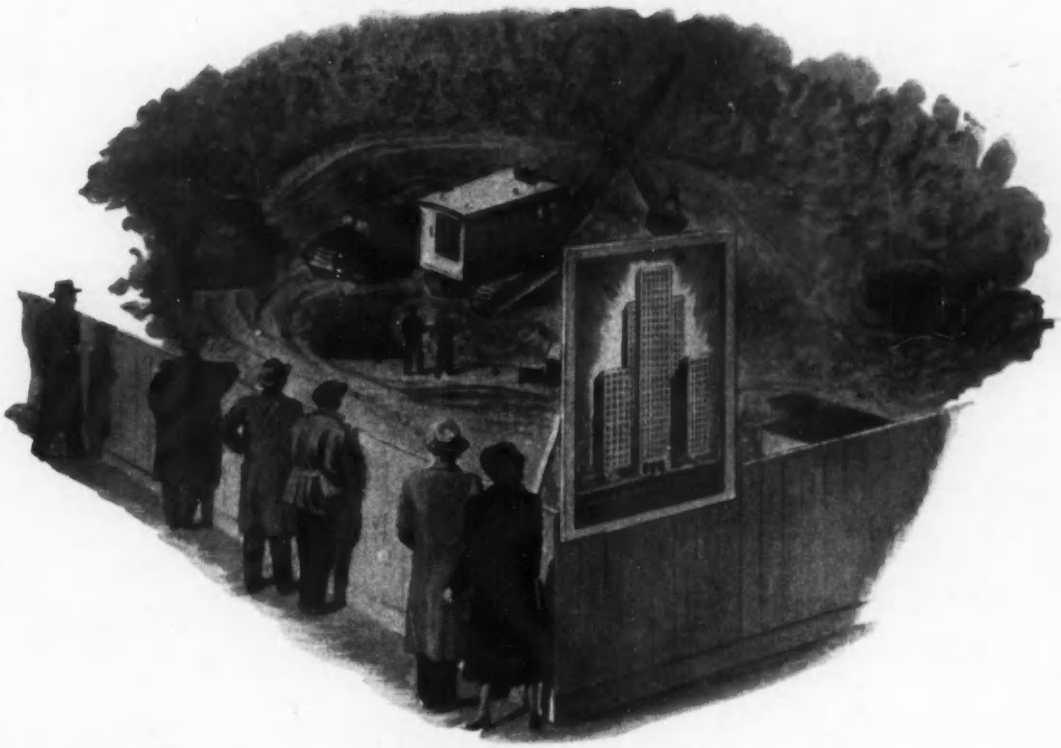
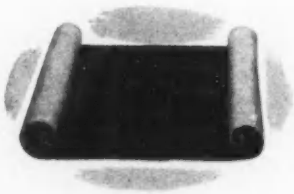


Foundation for a Fine Finish



UNLIKE MOST THINGS, a building must go deep down before it can go up!

. . . and the reason is, of course, that it's upon the *foundation* that the safety of the building's fine "finish" depends . . . a foundation planned for in advance . . . one designed to do the job *best*.

And this same "factor of safety" can be applied, with profit, in other ways. In your bleaching and dyeing operations, as an example, we know of no better way to plan for a fine finish than to use a de-sizing agent designed to do *that* job best: *Diastafor*.

For Diastafor de-sizing agent *works*, no matter what *your* working conditions—whether with various lots, with variations in water or sizing formulas—whether with cottons, rayons or mixed goods. What's more, you will find it works in an unusually wide range of temperatures and pH, a range sure to satisfy your every de-sizing need.

For finishing with ease, speed and economy in either the continuous or batch process—try all-purpose Diastafor! It's available in three types, L, L_2 or D. Remember: this is the product that has been building its fine reputation for more than 44 years!

For further information, feel free to write us . . . we're here to serve you. Standard Brands Incorporated, *Diastafor Department*, 595 Madison Avenue, New York 22, N. Y.

How Wyandotte Pluronics improve dye leveling

The Pluronics are a unique series of 100%-active nonionic surfactants based on a chemical concept not previously used in the synthesis of nonionics, utilizing a polyoxypropylene base as the hydrophobic unit.

The first commercial example of a block-polymer-type surface-active agent, Wyandotte Pluronics range in molecular weight from 1800 to 8000 (usual molecular-weight range for surfactants: from 300 to 700).

The Pluronics' advantages can only be realized through thorough laboratory investigation. Evaluate the Pluronics as the basis for a new approach in dye leveling . . . they may be the key to dyeing concepts that open up new avenues of progress for your company.

Pluronics' over-all balance of desirable properties also makes them suitable for use in other textile applications . . . these properties include:

1. **Stability throughout the entire pH range**
2. **Compatibility with metal ions**
3. **Excellent dispersing properties**
4. **Good penetration**
5. **Extremely low to moderate foaming properties**
6. **Liquid, paste, or flake forms — all 100% active**

Why are the Pluronics unusually helpful in textile processing?

Wyandotte Pluronics, a new series of 100%-active surface-active agents, are non-hygroscopic, neutral, and salt-free — and consequently are compatible with the oils, soaps, anionics, and cationics used in textile processing.

The Pluronics have excellent soil-removal properties, and hold lubricants, sizes, finishes, and dirt in suspension so they can be flushed away without redeposition onto textile fibers. Colored goods are left clear and bright.

What's more, the Pluronics do not combine with calcium or magnesium salts, and have excellent detergent action in hard or soft water — even at low concentrations and low temperatures. In fact, they are outstanding for their effectiveness in scouring without sudsing excessively.

The Pluronics rinse and drain freely . . . their dispersing properties, combined with their stability throughout the entire pH range, makes them particularly useful in acid baths.

Improve leveling of wool dyes

In the dyeing of wool, it has been found that Pluronic F68 effectively disperses, suspends, and aids the penetration of both acid and chrome dyes — helping to produce colors that are brilliant, clear, and level. It is also an effective solubilizing agent for many dyes which are normally difficult to put into solution.

Pluronic F68 produces excellent results as an assistant with certain unlevel-dyeing acid dyes, and metal-complex dyes. One of the most successful applications of Pluronic F68 is its use as a dye dispersant and diluent for dyes that can be applied to woolen fabric with a peroxide bleach — permitting bleaching and dyeing at the same time, and eliminating a step in the processing. F68, added to the dye, forms an integral product; no other additives are required to obtain level dye shades.

Better leveling of cotton dyes

Improved leveling of both direct and vat dyes can be achieved with Pluronic F68 in the dyeing of cotton. Excellent leveling and good penetration can be obtained with the rapid-exhausting direct dyes. And substantial improvement of certain difficult-to-reduce vat dyes is possible. F68 is also useful as a dispersing agent for diazo salts which form diazonium dyes directly on the fabric, for it is stable to the acetic acid added to the bath as an after treatment.

Pluronic F68 produces very level shades in package and skein dyeing. Used with naphthol

*Report on Wyandotte Pluronics**

in wool, cotton, synthetics

dyes, wetting of the fabric by the naphthol solution is enhanced, naphthols are kept in solution, and crocking is eliminated.

Because Pluronic F68 has no cloud point, it offers the advantage of being soluble in the dye bath at any temperature.

Pluronics for synthetics

Pluronic F68 is exceptional as a dye assistant for synthetic and synthetic-wool mixtures, spun nylon, and acetate rayon. In treating blends of wool and certain synthetics with basic dyes, staining of the wool is retarded. This same retarding quality suggests the use of F68 when poorly leveling direct dyes must be used.

Pluronic L64 and F68 have proved successful in rayon processing and rayon pulp treatment . . . F68 has been found good for incorporating pigment in rayon yarn.

Other Pluronic grades also offer promise in textile processing. For instance, Pluronic L61 has virtually no foam in most systems. The L61 grade is being successfully employed as a foam suppressant, vastly reducing the foam of soaps and other nonionic detergents and wetting agents.

How about other applications?

Wyandotte Pluronics are used in water conditioning, in the manufacture of cellophane, in shampoos, boiler-water compounds, mechanical-dishwashing compounds, home and laundry detergents, and in metal-cleaning formulations—to name a few.

New applications are being reported continually.

Pluronics are not just another nonionic surfactant . . . sales to date have clearly established this fact. Because the Pluronics are unique and different, the greatest progress has been made in the shortest possible time by those who have evaluated them carefully and thoroughly.

A thorough evaluation, including reformulation with any *one* of the Pluronics series, will not only provide you with data on the benefits to be gained from the Pluronic tested, but will offer an easy starting point for arriving at the right Pluronic grade to use for your specific requirements.

To find out more about the Pluronics:

Call your local Wyandotte representative, or write us direct. We will supply the proper samples of the Pluronics, a data sheet summarizing their physical and surface-active properties, technical information on the use of the Pluronics in textile processing, and prices. Write us today . . . or use the coupon below.

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*REG. U.S. PAT. OFF.

Wyandotte CHEMICALS

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Wyandotte Chemicals Corporation
Inquiry Section ADR, Wyandotte, Michigan
Please Send:

- ☐ New data sheet on the use of Pluronics as dye assistants
- ☐ Samples of Pluronic F68 (flake) and L61, L64 (liquids)
- ☐ Data on Pluronics for (state application):

_____

- ☐ Have your representative call on me

Name _____

Firm _____ Title _____

Address _____

City _____ Zone _____ State _____

MONSANTO TEXTILE TALK

EVERGLAZE® COTTON LOBELIES BY JOSEPH LOVE

BOTH TYPES OF RESLOOM® GIVE COTTONS A LASTING "WASH 'N WEAR" FINISH!

Which type of resin gives the most effective "wash 'n wear" finish to cottons? The controversy is raging—what is best for you?

If you favor a melamine resin, Monsanto recommends *Resloom HP* or *M-75*. If you prefer a cyclic-urea formaldehyde resin, Monsanto offers *Resloom E-50*. Both types of resins are compatible, and subtle yet significant changes in the finish for your cottons can be obtained through the use of a "blend." To determine what is best for your application, call on Monsanto—the only producer of cyclic urea and melamine-type resins.

Reslooms are outstanding in imparting dimensional stability and wrinkle recovery. Both types are remarkably durable. They do not wash or dry clean out of fabrics.

Unlike ordinary finishes, Resloom resins do not coat the surface. They are deposited inside absorbent fibers where they actually modify fiber characteristics.

A Monsanto representative will be glad to work with you on technical problems relating to "wash 'n wear" finishes. Write Monsanto Chemical Company, Plastics Division, Dept. AD-10, Springfield 2, Massachusetts.

It pays to finish fabrics with durable

RESLOOM *TEXTILE RESINS*

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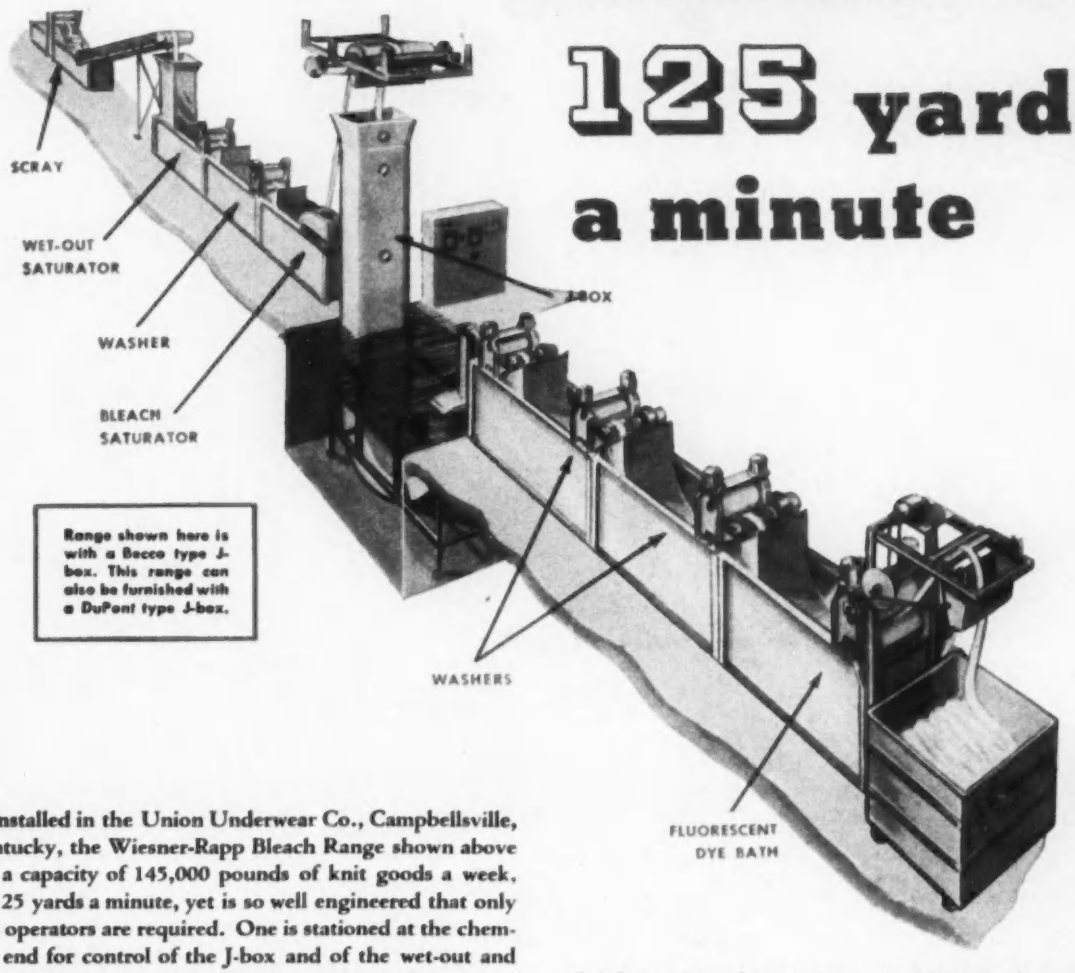
Knit Goods Processed at 125 yards a minute

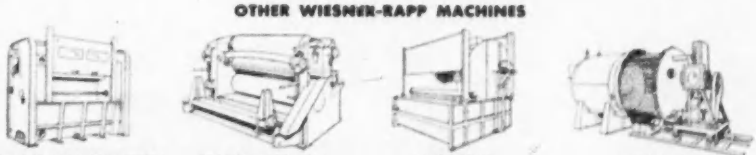


Range shown here is with a Becco type J-box. This range can also be furnished with a DuPont type J-box.

Installed in the Union Underwear Co., Campbellsville, Kentucky, the Wiesner-Rapp Bleach Range shown above has a capacity of 145,000 pounds of knit goods a week, or 125 yards a minute, yet is so well engineered that only two operators are required. One is stationed at the chemical end for control of the J-box and of the wet-out and chemical saturators; the other operator is at the exit end to control washers, fluorescent baths and delivery. The stainless steel units are compactly built in a straight line, 88 feet long, to avoid turns which might possibly distort the cloth. The complete bleach and wash cycle requires only one hour. Running speeds of each section are independently controlled from separate control panels.

Here is a bleach range that minimizes tension and shrinkage. It makes cloth wonderfully absorbent, soft, and uniformly white. Knit goods bleached by the continuous process has a better hand and is more uniform in quality than goods finished by kier bleaching. And, this Wiesner-Rapp range smooths out many production problems by keeping cutters and sewers well supplied with finished material. For further information, consult Wiesner-Rapp Co., whose technical staff is always ready to help you.

OTHER WIESNER-RAPP MACHINES



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1621 SENECA ST., BUFFALO 10, N. Y.
Manufacturers of Wet-Finishing and Dyeing Machinery

INCREASE YOUR PRODUCTION by providing fast, accurate control of color processes with G-E recording spectrophotometers. A permanent record of any color is provided and formula adjustments may be easily made.

GENERAL ANILINE COLORIST SAYS . . .

"General Electric Spectrophotometers Prove Color Analysis and Duplication of

"Even the most complicated color-matching problems are taken in stride by General Electric's spectrophotometers and integrators," says Irving W. Feyler, Colorist at General Aniline & Film Corporation, Rensselaer, N. Y.

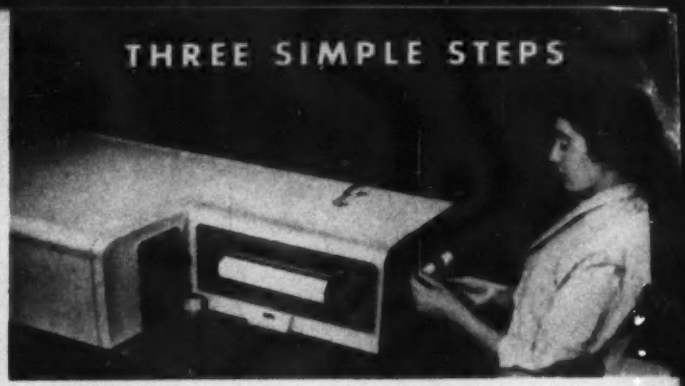
RAPID PRODUCTION-LINE ANALYSIS of dyestuffs by G-E spectrophotometers help General Aniline technicians maintain constant color control. Analysis of test sampling curves aid the colorist in matching General Aniline's standards. A complete spectrophotometric curve of the most complex dyestuffs can be drawn in only 54 seconds.

MATERIAL SAVINGS are assured because costly mismatching of dyestuffs is practically eliminated. The G-E spectrophotometer helps provide permanent color standards by furnishing a positive record of any color in quantitative terms of fundamental physical units.

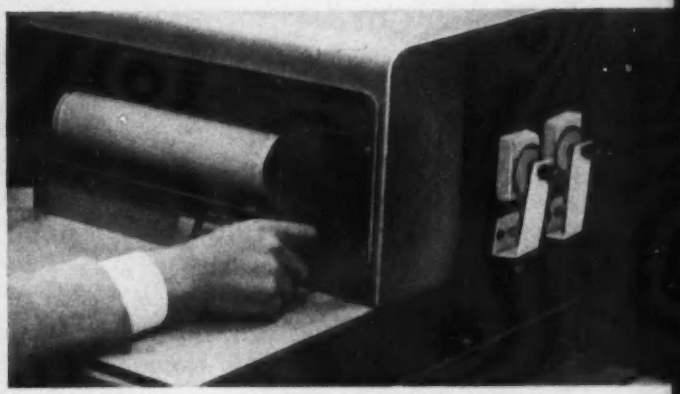
POSITIVE IDENTIFICATION is provided by General Electric spectrophotometers which have a range of 380 to 700 millimicrons*. Both transparent and opaque specimens may be analyzed. The instrument is simple to operate and is used as a double-check on the judgment of the colorist when multi-color-matching problems arise.

General Aniline achieves additional savings in time by using the automatic tristimulus integrator to calculate tristimulus values. Provided as an accessory to the

THREE SIMPLE STEPS



1. INSERTION of dyestuff sample and standard into G-E spectrophotometer is the first step in production-line color measurement. Samples may be either transparent or opaque.



2. SELECTION of recording speed is next. Operating automatically, the G-E instrument draws a complete spectrophotometric curve of the most complex dyestuffs in only 54 seconds.

3. ANALYSIS of curves determines any variations from standard and necessary corrections. The automatic tristimulus integrator saves up to 20 minutes per sample in analysis time.

Invaluable for the Dyestuffs"

G-E recording spectrophotometer, the integrator calculates the values automatically at the completion of the spectrophotometric curve. The numerical values are used to set up color tolerances, color standards, and color formulation.

FOR MORE INFORMATION, contact your nearest G-E Apparatus Sales Office, or write for Bulletin GEC-307 to General Electric, Section 585-16, Schenectady 5, New York.

*Special ranges can also be provided.

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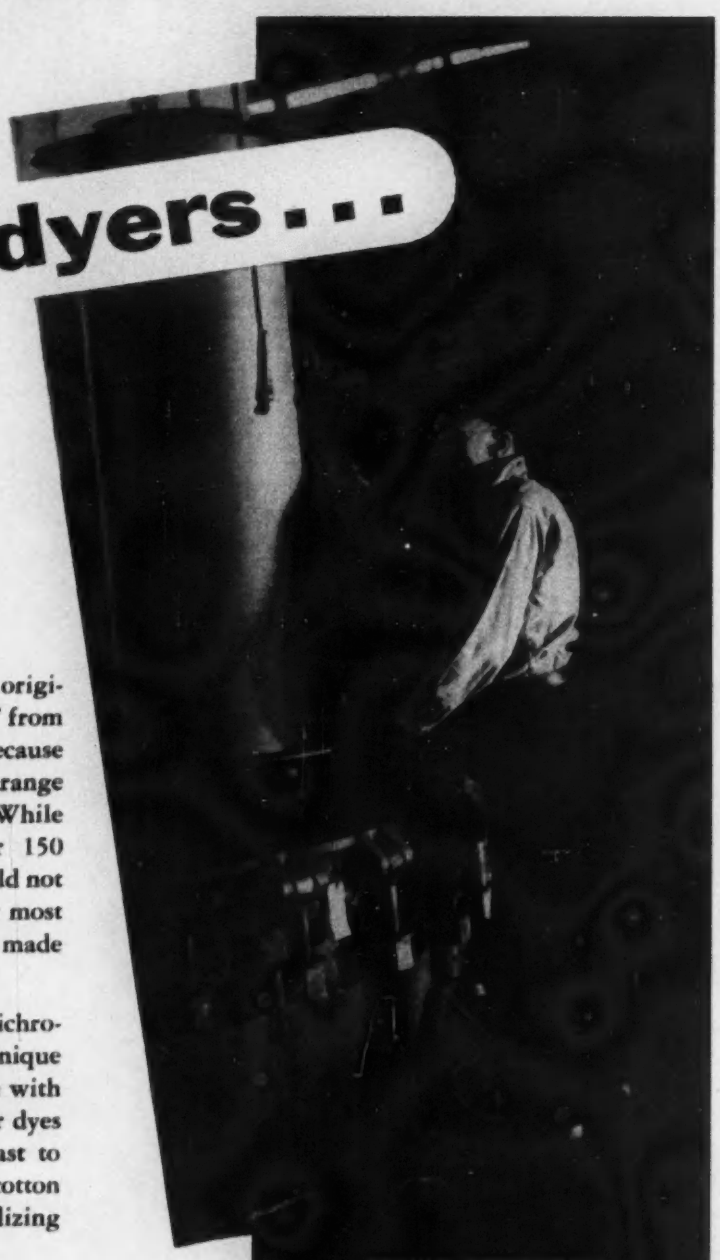
chrome dyers...

rely on mutual bichromate



The element Chromium was originally given the name "Chrome" from the Greek word "Chroma" because of its ability to impart a wide range of colors to its compounds. While that name was applied over 150 years ago, a better selection could not be made today as many of our most widely used pigments are still made from Chromium Chemicals.

The textile dyer uses Sodium Bichromate in a number of ways. Its unique properties enable it to combine with wool fibers and certain coal tar dyes producing colors which are fast to light. Sodium Bichromate in cotton dyeing is an economical oxidizing agent for vat dyes.

Whatever the application, experienced dyers recognize the Mutual trade mark as their guarantee of quality and dependable service.

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SODIUM CHROMATE

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MUTUAL — ALLIED CHEMICAL & DYE CORPORATION

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Arnold Constable's fashion show proudly presented a wide variety of fashions in silks, satins, corduroys, woolens, velvets, cottons and synthetics . . . all presented as better values because of Hydro-Pruf "the fabulous fashion fabric finish."

Arnold Constable has taken the Fifth Avenue lead with a national advertising and publicity program on Hydro-Pruf, backed up by their branch outlets with window displays, local advertising and publicity and departmental displays. Their buyers are going into the market specifying Hydro-Pruf. Fashion-wise Fifth Avenue demands HYDRO-PRUF!

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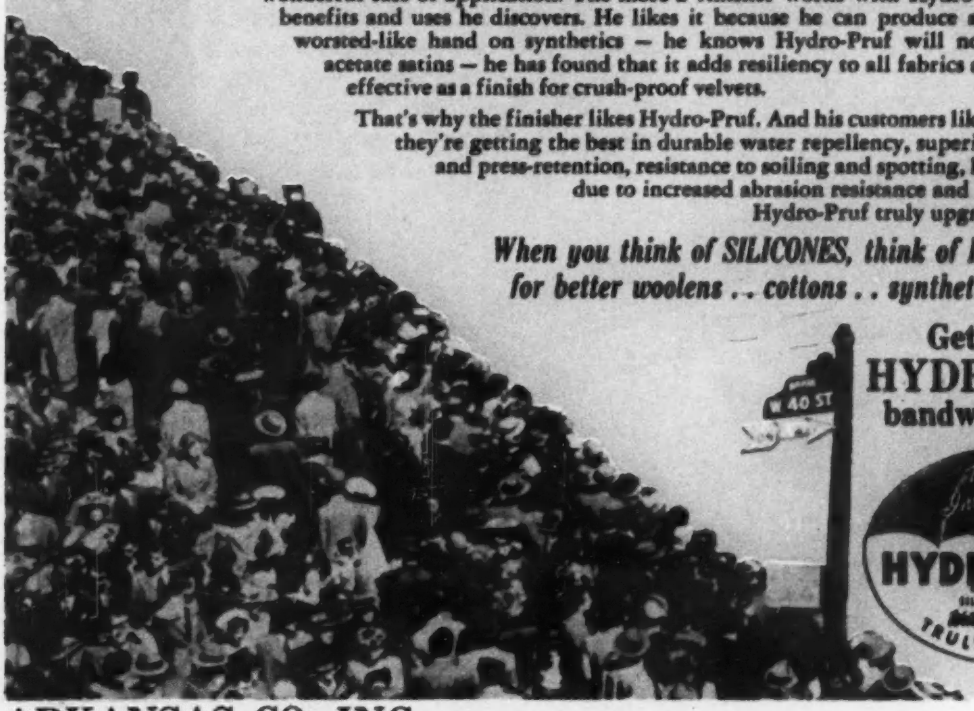
Many finishers have worked with Hydro-Pruf for so long that they take for granted its wonderful ease of application. The more a finisher works with Hydro-Pruf, the more benefits and uses he discovers. He likes it because he can produce a very desirable worsted-like hand on synthetics — he knows Hydro-Pruf will not mark off on acetate satins — he has found that it adds resiliency to all fabrics and is especially effective as a finish for crush-proof velvets.

That's why the finisher likes Hydro-Pruf. And his customers like it too, because they're getting the best in durable water repellency, superior shape, drape and press-retention, resistance to soiling and spotting, longer wear-life due to increased abrasion resistance and stronger seams. Hydro-Pruf truly upgrades all fabrics.

When you think of SILICONES, think of HYDRO-PRUF for better woolens .. cottons .. synthetics .. blends.



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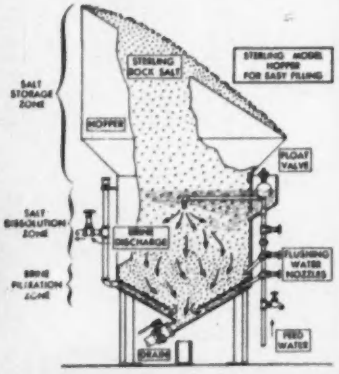
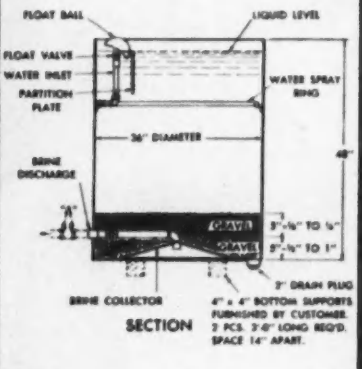


THE STERLING
EVAPORATED SALT DISSOLVER



SECTION

But, Mr. Woolen Manufacturer,

You don't have to "live with" STATIC

Now with NOPCOSTAT 56-C you will discover a wool oil with "built-in" anti-static properties PLUS detergency for easiest scouring

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Many companies often make extravagant claims for their wool oils. Nopco doesn't believe in extravagant claims. But if you are one of the many woolen manufacturers who have been assuming that static is something you just have to live with—since you can't eliminate it economically—we're sure you have everything to gain by trying our new wool oil, Nopcostat 56-C.

Nopcostat 56-C is a wool oil about which we are, truthfully, extremely optimistic. The combination of built-in anti-static qualities for trouble free running *PLUS* supplemental detergent action for optimum finishing and fine, clean fabrics put Nopcostat 56-C in a class by itself.

But what we *say* about Nopcostat 56-C won't really convince you. One trial in your mill will, we are sure, prove to you that our great enthusiasm for this new wool oil is well deserved. Make us prove it!

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Pennsalt Chemicals

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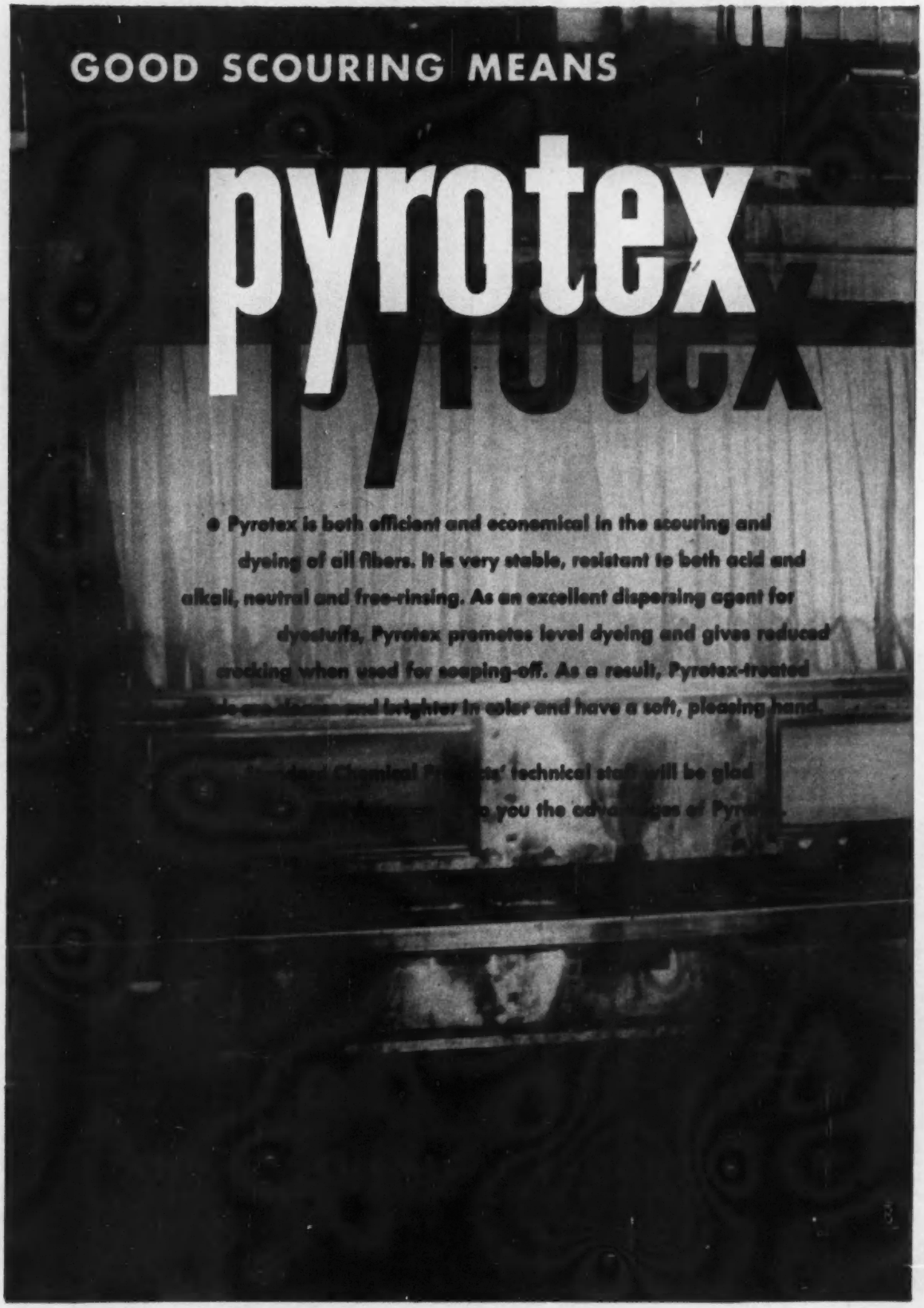
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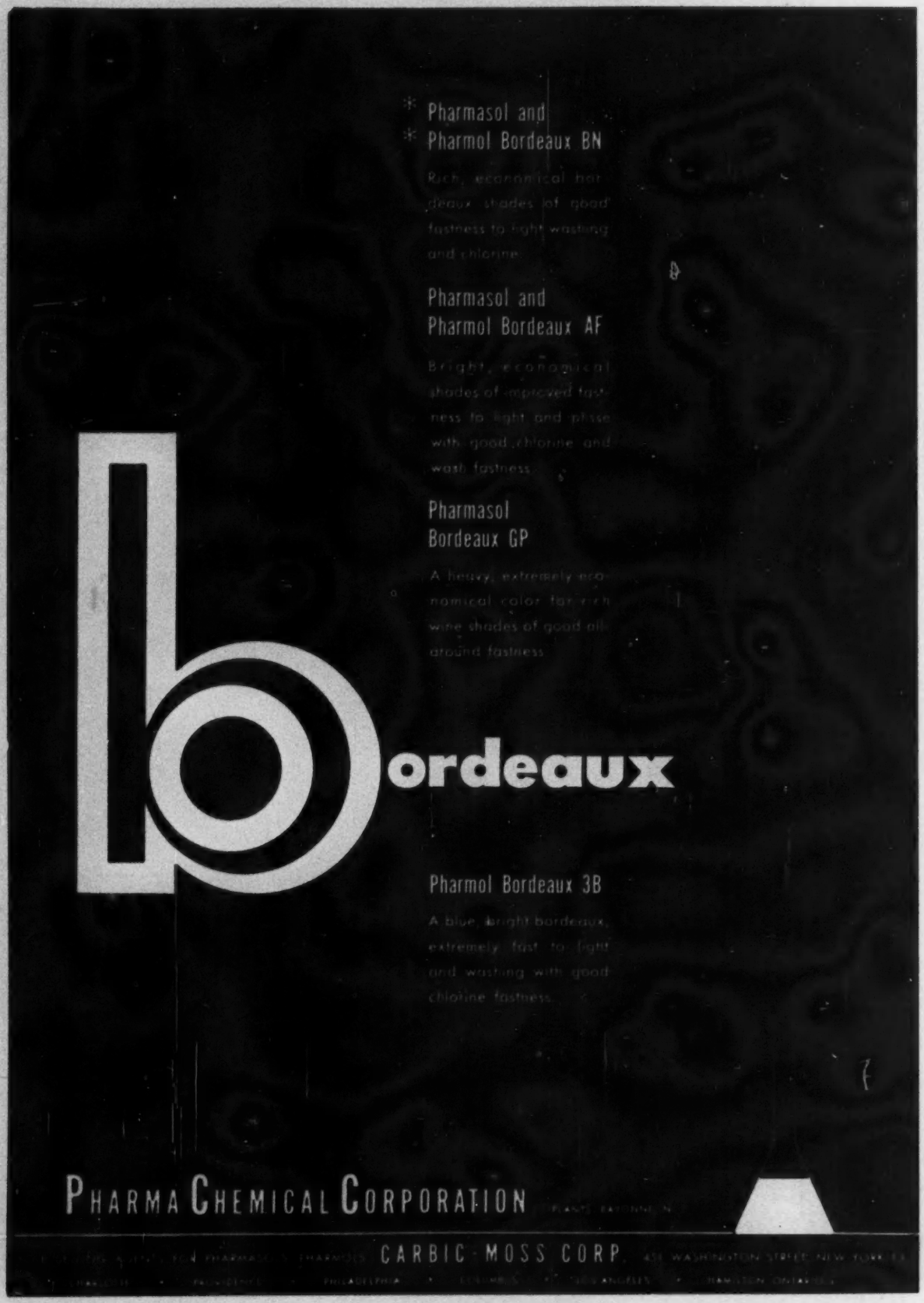
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OFFICIAL PUBLICATION OF THE PROCEEDINGS AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS

American Dyestuff Reporter was founded in 1917 and the Textile Colorist and Converter (formerly Textile Colorist) was incorporated with it on January 1949. Published every other Monday by the HOWES PUBLISHING COMPANY, INC., 44 E. 23rd Street, New York 10, N. Y. C. R. Howes, President; Ernest J. Finan, Executive Vice-President; Norman A. Johnson, Vice-President & Treasurer; Myron D. Reeser, Vice-President; C. Essenbreis, Secretary.

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OCTOBER 10, 1955

AATCC CALENDAR

COUNCIL
Nov 18, Jan 20 (Hotel Statler, New York, N Y); April 20; June 15; Sept, 1956; Nov 16, 1956; Jan 18, 1957.

NATIONAL CONVENTIONS
Sept 13-15, 1956 (Waldorf-Astoria, New York); 1957 (Boston); 1958 (Chicago); 1959 (Washington, DC).

HUDSON-MOHAWK SECTION
Nov 18 (Hotel Johnstown, Johnstown, N Y); Jan 20 (Jack's Restaurant, Albany, NY); March 16 (Hotel Johnstown, Johnstown, N Y); May 18 (Ladies Nite); June 22 (Annual Outing).

MID-WEST SECTION
Oct 29 (Bismarck Hotel, Chicago, Ill).

NEW YORK SECTION
Oct 14, Nov 18 (Kohler's Swiss Chalet, Rochelle Park, N J); Jan 27, Feb 24 (Hotel Delmonico, New York, N Y); Mar 23, Apr 27, May 18 (Kohler's Swiss Chalet, Rochelle Park, N J).

NIAGARA FRONTIER SECTION
Oct 14 (joint meeting with Ontario Section, CATCC); Dec 2, Jan 20 (U S); Mar 3 (Canada—meeting to be held in conjunction with Ontario Section, CATCC); Apr 27 (U S).

NORTHERN NEW ENGLAND SECTION
Oct 14; Dec 9.

PACIFIC SOUTHWEST SECTION
Feb 6 (Gourmet Restaurant, Beverly Hills, Calif).

PHILADELPHIA SECTION
Oct 21 (Penn-Sherwood Hotel); Dec 2, Jan 13 (Kugler's Restaurant).

PIEDMONT SECTION
Oct 29 (Hotel Wm R Barringer, Charlotte, N C).

RHODE ISLAND SECTION
Dec 1 (Sheraton-Biltmore, Providence, R I).

SOUTH CENTRAL SECTION
Dec 10 (Hotel Patten, Chattanooga, Tenn).

SOUTHEASTERN SECTION
Dec 3 (Atlanta Biltmore, Atlanta, Ga).

WESTERN NEW ENGLAND SECTION
Nov 4 (Hartford, Conn); Dec 16 (Rapp's Restaurant, Shelton, Conn)

ACTIVITIES OF THE LOCAL SECTIONS

NEW YORK———James M Straley, Tennessee Eastman Co, will discuss "The Eastofix Colors" at the October 14th meeting of the New York Section at Kohler's Swiss Chalet, Rochelle Park, N J. Slides will illustrate Dr Straley's presentation, and he will answer questions on these new metalizable acetate dyes.

* * * *

PHILADELPHIA———Walter Hindle of The Chemstrand Corp will be the featured speaker at the next regular meeting of the Philadelphia Section on Friday evening, October 21st, at the Penn-Sherwood Hotel, Philadelphia, Pa.

Mr Hindle's talk will be entitled, "Consideration in the Dyeing of Acrilan for a Variety of End Uses.

* * * *

PIEDMONT———The initial recipients of Charles H Stone Scholarship Fund Awards, William M Barnett, Jr, and Bobby R Clements, will be introduced at the Piedmont Section's October 29th meeting. Mr Clement has been awarded a $250.00 scholarship at Clemson College, while Mr Barnett has been awarded a similar scholarship at North Carolina State College.

Clement

Barnett

EMPLOYMENT REGISTER

This column is open for two insertions per year, per member, without charge. Blanks can be obtained from, and filed with, the Secretary of the Association, Post Office Box 28, Lowell, Mass. It is understood that these will be open to inspection by prospective employers who can obtain further information from the Secretary.

55-17

Education: BS, chemistry.

Experience: plant chemist, control and development; supervision of dyehouse, wool, cotton and synthetics, piece and stock, screen printing.

Age: 28; married; veteran; references, upstate New York preferred.

9-26, 10-10

55-18

Education: PhD, chemistry and textile technology.

Experience: research and teaching.

Woman, age 34; single; references; position in research and development desired, northeastern U S.

9-26, 10-10

NOTICE

To Authors and Section Officials

Under a new ruling of the Publications Committee, all papers presented before local sections of AATCC must be submitted direct to the publishers of the AMERICAN DYESTUFF REPORTER, 44 East 23rd St, New York 10, N Y. Two copies of each manuscript should be submitted in accordance with the "Notice to Authors", which appears periodically in the Proceedings of AATCC.

1955 National Convention —

Attendance at '55 Convention Exceeds 2000

UNDER the auspices of the Philadelphia Section, the 1955 National Convention of AATCC, held Sept 21-24 at Chalfonte-Haddon Hall, Atlantic City, N J, attracted one of the largest registrations in the Association's annals. Convention chairman Frederick V Traut, Globe Dye Works Co, announced the figure . . . 2034 . . . at the Annual Banquet, traditional finale of each Convention.

In conjunction with the Convention, approximately 60 exhibitors presented a panoramic display of products, services, and equipment. These were in addition to AATCC's display, which was devoted for the most part to a display of materials, fabrics and garments on exposure plaques and mannequins respectively, which have been subjected to the effects of an atom-bomb blast in the Nevada desert.

The AATCC exhibit, along with a technical session on AATCC participation in the tests, ie, "Operation Cue", ranked high among the outstanding features of the Meeting. Other highlights included the traditional Olney Medal Award Luncheon, Alumni Luncheon, and Annual Banquet; a full Ladies Program, including a trip to the Atlantic City Race Track; the Intersectional Contest; a complete technical program, featuring five regular sessions; the aforementioned Dyeing and Finishing Exhibit; regular meetings of the Council, ECR and TCR; and meetings of various standing committees of the Council and subcommittees of TCR.

An advanced registration in excess of 1500 marked a new high, as registration began at 12 noon on Wednesday, Sept 21st in the Peverel Lounge.

Events of Wednesday, Sept 21

Although the official Convention program did not begin until Thursday, several functions were held on Wednesday afternoon and evening. The President's Advisory Committee met at noon, with chairman J Robert Bonnar, General Dyestuff Co, presiding; the Executive Committee on Research met at 4 pm under the chairmanship of Leonard S Little, and the Council met at 7:30 pm for its 198th regular meeting.

Events of Thursday, Sept 22

The first "public" affair of the Convention took place on Wednesday morning in the Viking Room of Haddon Hall as the Technical Committee on Research opened its doors at 9:30 am to acquaint AATCC Conventioneers with its function. The program was divided into two parts: first, the presentation of reports by representatives of eleven of TCR's 36 subcommittees, and second, the presentation of results obtained on textiles in atomic-bomb tests in Nevada this past Spring.

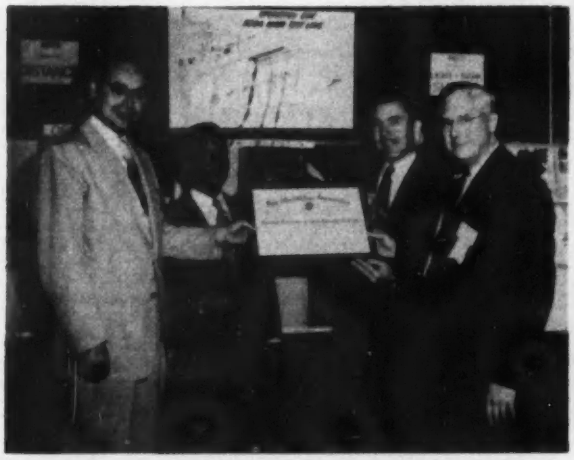
Registration desk

The first part provided the audience with a typical cross-sectional view of TCR's endeavors as the work of the following Subcommittees was reported upon: Fastness to Washing, P J Fynn, J C Penney Co; Antistatic Finishes, S N Glarum, Ciba Co, Inc; Continuous Wool Scouring, E A Leonard, Alexander Smith, Inc; Standard Soils, O C Bacon, Du Pont; Standard Depths of Shade, M J Babey, American Cyanamid Co; Water Absorbency, R B Smith, N J Laundry and Cleaning Institute; Flammability, H E Hager, General Dyestuff Co; Fire Resistance, L L Heffner, Wm C Hooper & Sons Co; Fastness to Light, R C Allison, Geigy Chemical Corp; Evaluation of Desizing Agents, E H Grosse, A E Staley Mfg Co; and Standard Test Fabrics, G W Wernz, Eastman Chemical Products, Inc.

The second part began with an introduction by Charles W Dorn, J C Penney Co, TCR chairman, on "AATCC Participation in 'Operation Cue'." This was followed by a report by P J Fynn, J C Penney Co, a member of AATCC's team in attendance at the tests. Supplementing his report with color slides and diagrams, Mr Fynn discussed details of the test site, houses, trailers, equipment, and the various mannequins exposed to the test. Harold W Stiegler, project officer for textiles during the test and director of AATCC research, concluded the session with a supplementary report on the thermal radiation effects on various textiles, test project plans, equipment and exposure details. Dr Stiegler then invited the audience to view first-hand at AATCC's display several of the mannequins and plaques.

Seated at the rostrum during the Thursday morning session of TCR: (L to r)—Matthew J Babey, American Cyanamid Co, secretary, TCR; Harold W Stiegler, AATCC's director of research; Charles A Sylvester, E I du Pont de Nemours & Co, Inc, vice chairman, TCR; Leonard S Little, chairman, Executive Committee on Research; Charles W Dorn, J C Penney Co, chairman, TCR.

Reporting on AATCC's role in "Operation Cue"—(l to r): C W Doran, J C Penney Co, TCR chairman; P J Flynn, J C Penney Co; H W Stiegler, AATCC director of research.



Shown holding the certificate of award presented to AATCC by the Federal Civil Defense Administration are the members of the AATCC team which participated in the Nevada tests: (l to r) Ernest R Kaswell, Fabric Research Laboratories, Inc; Dr Stiegler; Mr Fynn; and Mr Dorn.

Members of the AATCC team are shown inspecting two of the mannequins which have been exposed to the effects of the a-bomb blast. The mannequins, which were on display at the AATCC exhibit, were furnished by the J C Penney Co for test purposes.

A larger view of the AATCC display.

The presentation served as an initial report on the subject. Complete evaluation of the various combinations of fabrics on the exposed plaques is almost complete and temperature indications are now being interpreted. Complete details will be published after the final report is submitted and Federal Civil Defense Administration has approved the material for release.

In recognition of the Association's participation, FCDA has presented AATCC with a Public Service Award, which was on display at the AATCC exhibit.

Val Peterson, FCDA Administrator, in a letter to AATCC President Raymond W Jacoby, Ciba Co, Inc, stated:

"It is a pleasure to enclose this Administration's Public Service Award to the American Association of Textile Chemists and Colorists in recognition of its contribution to the National Defense by participating in the 1955 FCDA Atomic Test Program."

OLNEY MEDAL AWARD LUNCHEON — Haddon Hall's Rutland Room was the site of the Olney Medal Award Luncheon, which was held at noon on Thursday, at which time Miles A Dahlen, E I du Pont de Nemours & Co, Inc, was awarded the 13th impression of the Olney Medal, AATCC's highest award.

Herman L Steen, Convention cochairman, welcomed the gathering. Dr Dahlen was introduced by Elliot Broadbent, Glenlyon Print Works, who delivered an address calling attention to the Medalist's curiosity, enthusiasm and interest in all things. Special tribute was paid to Dr Dahlen's many scientific achievements.

AATCC president Raymond W Jacoby presented the Olney Medal to Dr Dahlen, citing his "many valuable contributions and patents in the industry". The text of Mr Jacoby's remarks appears in the opposite column.

Dr Dahlen thereupon responded with a stirring address, highlighted by a call for AATCC to review its considerations of research. He urged the Association to stimulate fundamental research in every way possible, stating "There are many who believe that, so far as the sciences with which our textile and related chemical industries are concerned, the exploitation of present basic knowledge is reaching the point of diminishing returns. The well of basic knowledge is running dry and we need more new fundamental work if we are to look forward to a prosperous future."

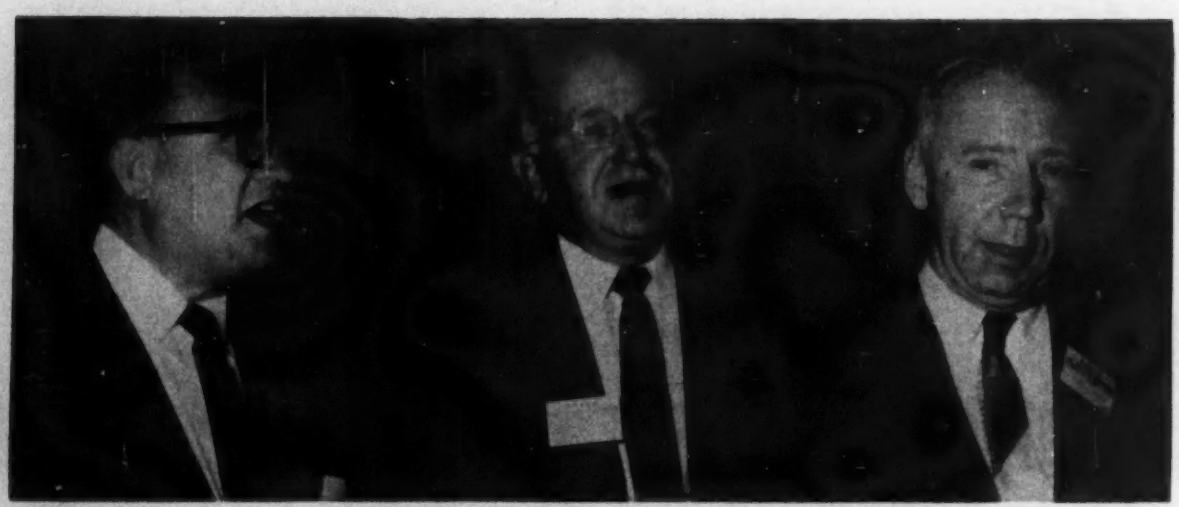
PRESENTATION OF THE OLNEY MEDAL TO MILES A DAHLEN
OLNEY MEDAL AWARD LUNCHEON OF THE AATCC
SEPTEMBER 22, 1955

Miles A Dahlen, — The industry with which we are associated has a remarkable record of progress. This has been due largely to the fact that there are within its ranks men of knowledge, men of ability, men of energy who give completely and unceasingly of their talents. The Olney Medal is awarded for outstanding achievements in this field. While it is an honor and a tribute to a deserving individual, it is also an inspiration to many others who give their best, and who otherwise might think that such service goes unhonored. We believe that you are the complete embodiment of those qualities which merit recognition.

At the start of your illustrious career, through your personal efforts, you made many valuable contributions to progress. The scope of your numerous publications and patents indicates the extent of these contributions. As your ability brought you greater responsibilities, you transmitted your ideas and ideals to those with whom you associated and exerted a guiding influence which was invaluable to them and to the industry in terms of advancement and knowledge. Like the ripples on a millpond, your influence spread in ever widening circles, inspiring countless others and arousing in them admiration for the things for which you stand and for the things which you have done. No one is more deserving.

Miles A Dahlen, it is an honor and a privilege to present the Olney Medal to you.

RAYMOND W JACOBY
President, AATCC



Olney Medal Award Luncheon Principals: (l to r)—Herman L Steen, Geigy Dyestuffs Div, Convention cochairman; Elliot Broadbent, Glenlyon Print Works; Miles A Dahlen, E I du Pont de Nemours & Co, Inc, 1955 Olney Medalist.

Raymond W Jacoby, Ciba Co, Inc, AATCC president, is shown cutting the red ribbon in ceremonies which opened the 1955 Textile Dyeing and Finishing Exhibit on the Lounge Floor of the Hadden Hall Hotel on September 22nd. Immediately to Mr Jacoby's left are Carleton T Anderson, Ciba Co, Inc, Exhibits Committee chairman, and Fred V Traut, Globe Dye Works Co, Convention chairman. Convention cochairman Herman L Steen, Geigy Dyestuffs, is to Mr Jacoby's right in the photo.

The first session of the general technical program was held on Thursday afternoon at 2 in the Viking Room with Arthur W Etchells, Hellwig Dyeing Corp, presiding. The following three papers comprised the meeting:

"The Use of Radioactive Tracers to Study the Interaction of Cellulose with Simple Salt Solutions and with Dyebaths"—Howard J White, Jr, and Mary Moncrieff-Yeates, Textile Research Institute

"Catalysis in Blended Chemical Finishes"—D Donald Gagliardi, Gagliardi Research Corp

"Present Status of Theory of Dyeing"—Emery I Valko, Onyx Oil and Chemical Co

The Ladies' Program on Wednesday featured a Welcome Party in the Rutland Room from 4:30 to 6:30.

Events of Friday, Sept 23

Friday morning saw simultaneous technical meetings in the Viking Room and West Room.

Edwin J Grajeck, Collins & Aikman Corp, presided over the session which had as its theme "Bringing Synthetics Up to Date". This session featured the following presentations:

"Advances in the Dyeing & Finishing of Man-Made Fibers"—Paul L Meunier, E I du Pont de Nemours & Co, Inc

"The Finishers' Viewpoint"—John A Komninos, Waldrich Co.

"Dyeing & Heat Treatment of Arnel Triacetate"—Fred Fortess, Celanese Corp of America

"High-Temperature Dyeing"—Ray J. Andres, E I du Pont de Nemours & Co, Inc

"The Sandocryl Process for the Dyeing of Polyacrylonitrile Fabrics"—Charles W Saalfrank, Sandoz Chemical Works, Inc

The session on "Laundering, Drycleaning and Garment Dyeing", with William J Mooney, Pennsylvania Association of Dyers and Cleaners, presiding, featured the following:

"Measuring the Whitening Effects of Fluorescent Dyes and Perborate Bleaches on Cotton"—Margaret S Furry, U S Dept of Agriculture

"Launderable Textiles"—George H Johnson, American Institute of Laundering

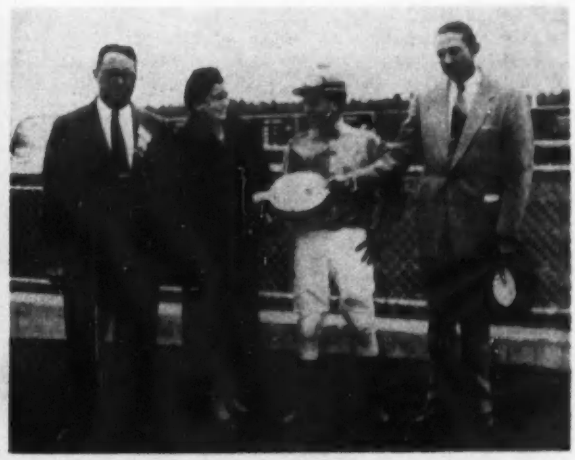
"Finishing and Color Problems in Drycleaning"—Johne Parsley, Philadelphia Textile Institute

"Garment Dyeing in the United States Today"—Arthur C Teichner, Almore Dye House, Inc

The Convention spotlight was focused on the Atlantic City Race Track at noon on Friday as the Ladies assembled for a luncheon in the clubhouse and an afternoon viewing the "Sport of Kings". Mrs Raymond W Jacoby, accompanied by her husband and Convention Chairman Fred Traut, awarded a silver plate to the winner of the feature race run for AATCC — "The Dyer's Handicap".

Many of the Association's golf enthusiasts took advantage of the facilities of the Seaview Country Club and the Atlantic City Country Club on Friday afternoon.

Members of the Ladies Committee: (l to r)—Miss Margaret Hayes, Mrs Earl Dunlap, Mrs Thomas R Scanlan, Jr, Mrs Paul L Speakman, Mrs Thomas H Hart, Mrs Frederick V Traut, Mrs Millard E Haines, and Mrs Matthew A Noonan. Not in attendance when photo was taken: Mrs Agne E Raimo, Mrs Donald W Robinson, and Mrs Richard D Seed.



Mrs Raymond W Jacoby, wife of the AATCC president, presents an engraved silver plate, emblem of victory in the "Dyers' Handicap," which was run at the Atlantic City Race Track, Sept 23. Frank Gall, trainer of Double Bid, the winning horse, accepts the award from Mrs Jacoby. At left is Fred V Traut, Convention chairman. Jockey is Walter Blum.

Arthur W Etchells, presiding official, General Technical Meeting.

Speakers and Presiding Officials at The Five Technical Sessions

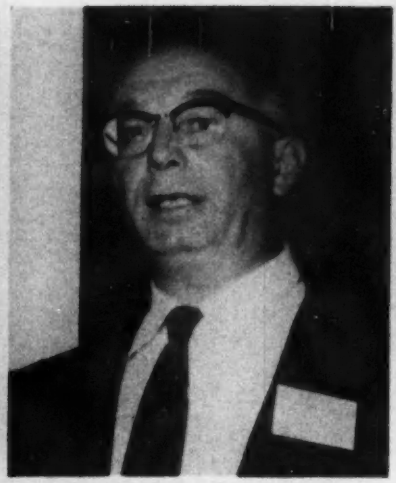
Edwin J Grajeck, presiding official, Symposium on "Bringing Synthetics Up to Date."

Howard J White—"The Use of Radioactive Tracers to Study the Interaction of Cellulose with Simple Salt Solutions and with Dyebaths."

Editor's Note: We regret that photographs of Charles W Saalfrank and F Theis delivering their respective papers are not available.

Paul L Meunier—"Advances in the Dyeing and Finishing of Man-Made Fibers."

D Donald Gagliardi — "Catalysis in Blended Chemical Finishes."



Emery I Valko—"Present Status of Theory of Dyeing."

John A Komninos—"The Finishers' Viewpoint."

Fred Fortess — "The Dyeing and Heat Treatment of Arnel Triacetate."

Margaret S Furry — "Measuring the Whitening Effects of Fluorescent Dyes and Perborate Bleaches on Cotton."

Arthur C Teichner—"Garment Dyeing in the U S Today."

Ray J Andres — "High-Temperature Dyeing."

George H Johnson — "Launderable Textiles."

James L Fesperman, presiding official, Symposium on "Dyeing and Finishing."

William J Mooney, presiding offical, Symposium on "Laundering, Drycleaning and Garment Dyeing."

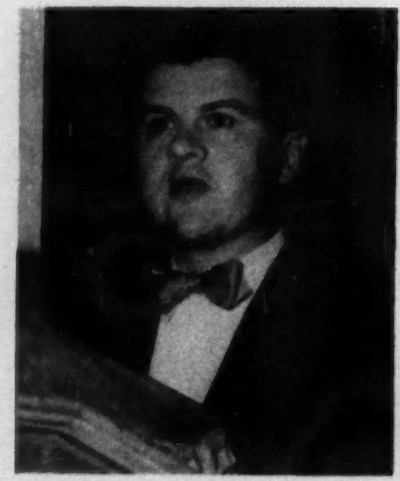
Johne Parsley — "Finishing and Color Problems in Drycleaning."

Jackson Bauer—"Wool Dyeing—the Loss of Weight and Its Reduction."

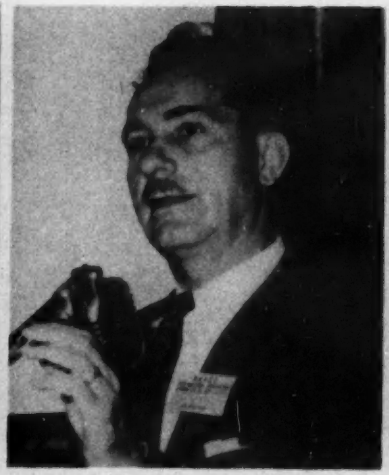
L L Walmsley — "A Study of Rayon in Tufted Carpeting."

Bertil Mellbin — "The Pad-Roll Dyeing System and Its Technical and Economical Application."

Walter C Lindsly — "The Principles and Practice of Color Stripping."

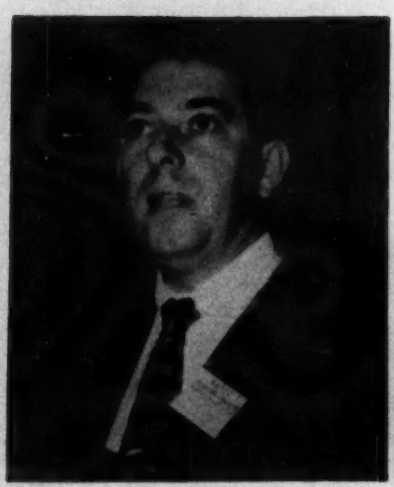


W S Sollenberger—"A Study of Rayon in Tufted Carpeting."



Hector C Borghetty, presiding official, Symposium on "Chemical Agents in Textile Processing."

George M Gantz—"Relative Efficiency of Chelating Agents."



Jason M Salsbury—"Soil-Resistant Treatment of Fabrics."

Bernard K Easton—"Continuous Bleaching of Cotton with Silicate-Free Peroxide Solutions."

E Wallace Birdsall—"An Evaluation of Mothproofers in Terms of Present-Day Trade and Consumer Requirements."

Events of Saturday, Sept 24

The General Technical Program was concluded on Saturday morning with simultaneous sessions in the Viking Room and West Room.

James L Fesperman, Jr, Cabin Crafts, Inc, presided over the session on "Dyeing and Finishing", which featured the following presentations:

"Wool Dyeing—The Loss of Weight and Its Reduction"—Jackson Bauer, Fred Whitaker Co

"A Study of Rayon in Tufted Carpeting"—L L Walmsley, D P Feyler, and W S Sollenberger, American Viscose Corp

"Soil-Resistant Treatment of Fabrics"—Jason M Salsbury, T F Cooke, Elliot S Pierce, and Philip B Roth, American Cyanamid Co

"Pad-Roll Dyeing System and Its Technical and Economical Application"—Bertil Mellbin, AB Svenska Textilmaskinfabriken

"Pressure Dyeing and Drying in a Closed System as Compared to Dyeing and Drying in an Open System"—F Thies, B Thies Co

"Chemical Agents in Textile Processing" was the theme of the session presided over by Hector C Borghetty, Rohm & Haas Co. It featured the following papers:

"Continuous Bleaching of Cotton with Silicate-Free Peroxide Solutions"—B K Easton, Becco Chemical Div, and Paul Feldmann, Dan River Mills Inc

"The Principles and Practice of Color Stripping"—Walter C Lindsly and Nathaniel A Matlin, Rohm & Haas Co

"Relative Efficiency of Chelating Agents"—M E Chiddix, A C Signore, and G M Gantz, General Aniline & Film Corp

"An Evaluation of Mothproofers in Terms of Present-Day Trade and Consumer Requirements—E Wallace Birdsall, Geigy Dyestuffs Div, Geigy Chemical Corp

Approximately 150 members and guests were attracted to the Rutland Room at noon for the annual Alumni Luncheon, over which Thomas S Greenwood, Globe Dye Works, presided. Speakers at the affair were President Jacoby and Bertrand W Hayward, president of Philadelphia Textile Institute. Among the guests at the head table were Martin J Lydon, president, Lowell Technological Institute; Henry A Rutherford, head of the chemistry and dyeing department, School of Textiles, North Carolina State College; Richard S Cox, PTI dean emeritus; James C Farrow, head of the chemistry and finishing department, Alabama Polytechnic Institute; and Joseph Lindsay, Jr, head of the textile chemistry and dyeing department, Clemson College.

The 1955 Intersectional Contest was held in the Viking Room beginning at 2 pm. Further details will be found on page P725 of this issue.

ANNUAL BUSINESS MEETING — The annual Business Meeting was held following the Intersectional Contest. The actions of the Council for the year were approved.

ANNUAL BANQUET — The Carolina Room of the Chalfonte Hotel was filled to capacity for the Annual Banquet on Saturday evening.

Following a filet mignon dinner, those in attendance turned their attention to Frederick V Traut, who welcomed the group and introduced Ivor Griffith, Philadelphia College of Pharmacy, toastmaster for the evening.

Prior to the presentation of the President's Address, Mr Jacoby read a telegram of greeting from President Eisenhower, the text of which appears elsewhere on this page, and another from Walter Potts, convention manager, New York Convention Bureau, declaring that the "welcome mat" will be out for next year's Perkin Centennial.

The full text of Mr Jacoby's address begins on page P723.

LOWRY AFB COLO

RAYMOND W JACOBY
PRESIDENT, AMERICAN ASSOCIATION
OF TEXTILE CHEMISTS AND COLORISTS
CARE HADDON HALL HOTEL
ATLANTIC CITY, N J

TO ALL ATTENDING YOUR ANNUAL CONVENTION I SEND MY WARM GREETING. I CONGRATULATE ALL OF YOU ON YOUR EFFORTS, THROUGH RESEARCH, TO ADVANCE KNOWLEDGE IN THE FIELD OF TEXTILE CHEMISTRY — EFFORTS WHICH EXEMPLIFY THE ENTERPRISE OF OUR NATION'S GREAT TEXTILE INDUSTRY AS A WHOLE. I TRUST THAT EACH OF YOU WILL HAVE A FINE TIME AT YOUR ANNUAL GATHERING.

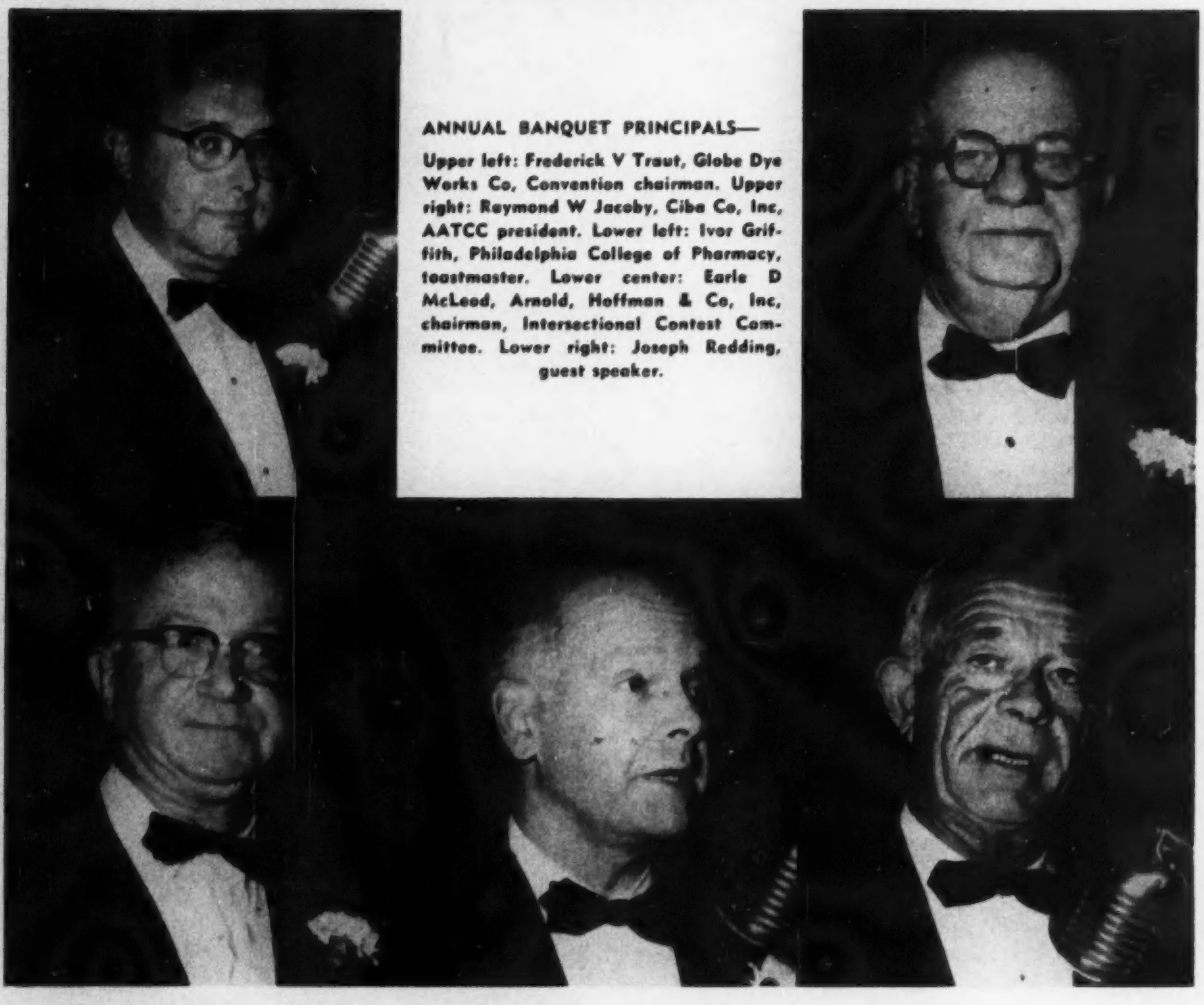
DWIGHT D EISENHOWER

HEAD TABLE—ANNUAL BANQUET

(L to r): George O Linberg, Synthron, Inc, vice president, New England Region, and chairman, General Program Committee, Perkin Centennial; Earle D McLeod, Arnold, Hoffman & Co, Inc, chairman, Intersectional Contest Committee; Raymond W Jacoby, Ciba Co, Inc, president; Rev Paules.

(L to r): Fred V Traut, Globe Dye Works Co, Convention chairman; Joseph Redding, guest speaker; Percival Theel, Philadelphia Textile Institute, chairman, Publications Committee.

(L to r): Herman L Steen, Geigy Dyestuffs, Convention cochairman; Albert E Sampson, National Aniline Div, treasurer; Harold C Chapin, secretary; Richard R Fray, assistant secretary.
Also seated at the head table were: Harold W Stiegler, director of research; Leonard S Little, chairman, Executive Committee on Research; Charles W Dorn, J C Penney Co, chairman, Technical Committee on Research; Miles A Dahlen, E I du Pont de Nemours & Co, Inc, 1955 Olney Medal Award winner; Joseph H Jones, Phoenix Dye Works, vice president, Western Region; and Ivor Griffith, Philadelphia College of Pharmacy, toastmaster.



ANNUAL BANQUET PRINCIPALS—

Upper left: Frederick V Traut, Globe Dye Works Co, Convention chairman. Upper right: Raymond W Jacoby, Ciba Co, Inc, AATCC president. Lower left: Ivor Griffith, Philadelphia College of Pharmacy, toastmaster. Lower center: Earle D McLeod, Arnold, Hoffman & Co, Inc, chairman, Intersectional Contest Committee. Lower right: Joseph Redding, guest speaker.

Percival Theel (left), chairman of the Publications Committee, is shown presenting the 1955 AMERICAN DYESTUFF REPORTER AWARD—a check for $200 and a plaque—to Henry E Millson, American Cyanamid Co, during the Annual Banquet. Mr Millson's paper, "The Microdyeoscope: Microscopical Observations on Dyeing," which appeared in the June 20th issue, was judged the best paper to appear in the *Proceedings* during the year.

Additional Banquet proceedings included the presentation of the AMERICAN DYESTUFF REPORTER AWARD to Henry E Millson for his paper, "The Microdyeoscope-Microscopical Observations on Dyeing", which appeared in the June 20th issue. The presentation was made by Percival Theel, Philadelphia Textile Institute, chairman of the publications Committee.

Earle D McLeod, Arnold, Hoffman & Co, Inc, chairman of the National Intersectional Contest Committee, announced the results of this year's contest as follows: *Third*—Piedmont Section; *Second*—Philadelphia Section; *First*—Rhode Island Section.

Guest speaker of the evening was Joseph Redding, world traveler and adventurer.

George O Linberg, Synthron, Inc, general program chairman for the Perkin Centennial, invited all in attendance at the Banquet to attend the Centennial, which will be held the week of September 10th, 1956 at the Waldorf-Astoria Hotel, New York, N Y.

The affair was concluded with an 8-act floor show, which was generally admitted to be the best ever presented at an AATCC Convention.

1955 Annual Convention———

PHOTOS — ANNUAL BANQUET

CAROLINA ROOM • CHALFONTE HOTEL • ATLANTIC CITY, N J

SEPTEMBER 24, 1955

(Additional Banquet photos on following page)

1955 Annual Convention —

PRESIDENT'S ADDRESS*

RAYMOND W JACOBY

EVERY year, as our Annual Convention comes to a close, appreciation is always expressed to those whose efforts have made it a success. Such continuous repetition may seem perfunctory. This is not the case, however, for the commendation always is sincere and these efforts are typical of our Association. Each year a new group takes on the responsibilities and duties of arranging a Convention. Each year they make good. Our Association owes a debt of gratitude to Fred Traut, chairman, Herman Steen, cochairman, and all the members of their committees for the outstanding services which they have rendered for this Convention.

I often wonder where else in a group of 7,000 people one could find the versatility which exists in the membership of the AATCC. These various convention groups not only handle the manifold routine details but introduce something new — a barbecue at Augusta, a clambake at Wentworth, a Pops Concert at Boston, and last year a combination Turkish bath and football game at Atlanta. These are but a few such events, and this year there was a trip to the horse races. In honor of the AATCC Convention, one race was named the Dyer's Handicap. I looked over the entries, but there was no horse named "Competitors' Colors." If there had been such an entry I am sure every dyestuff man would have plunged on him as a sure-thing winner. They all know that it would be a real handicap to any dyer to use competitors' colors.

This versatility of our members, together with their willingness to serve, has brought our Association to the position which it holds in the professional world. Just as our Convention groups rise to the occasion year after year, our members also rise to the occasion in all of our activities, and it is a privilege to report on our progress during the past year.

The Research Committees have functioned in an ever-broadening scope, and three new committees — End-Use, Dermatitis, and Wash and Wear—have been organized. Test methods are studied for a considerable period before they are adopted, but sometimes, in practice, it is found that minor factors affect results, making reproducibility difficult. If such experiences are encountered by any members, they should advise Charles W Dorn, chairman of the Technical Committee on Research, so that a thorough study can be made.

The Research Laboratories have assisted many of the Research Committees and also played an important part in the Civil Defense "Operation Cue," which was reported on at the TCR meeting Thursday. Incidentally, in this connection, our Association received a Public Service Award from the Federal Civil Defense Administration for our contribution to national defense by participating in this program. A broad organization plan has been developed so that this important function of our activities will yield maximum service to our members and to the industry.

We now have quite a number of full-time, paid personnel on our staff. Plans are being made to give some protection to them and to their families. These plans include life insurance policies to be paid for by the Association, and a pension plan. In order to provide for the latter, it is proposed to establish a pension fund which will be added to each year. It will be several years before anyone is eligible for a pension, which will give ample time for the details of the plan to be worked out.

The President's Advisory Committee has been revived and has been most helpful. As its name implies, this Committee serves only in an advisory capacity. Every proposal is considered and discussed thoroughly by the twelve capable members so that it is thought through and can be presented to the Council on a sound basis.

Our Association has official representatives on committees of other societies. The fact that they are official representatives of the AATCC makes this a matter of vital importance. Rules covering the entire procedure have been drawn up and a list of these delegates, together with a statement of their authority, is now a part of our Year Book.

Dues for the current year were increased from $7.50 to $10.00. In spite of this increase in dues, we lost only 60 members. However, 30 of these were student members. This emphasizes the fact that, if our industry is to progress in the future, there must be a continuing supply of trained men. With this thought in mind, the Publications Committee is preparing a brochure entitled — "Careers in Textiles Through Chemistry." This brochure will be widely distributed with the desire to influence prospective students to choose this field for their career.

Three amendments to the Bylaws have been approved. These were:

1) Detailing duties of the vice-presidents.
2) Increasing allowances to the Sections.
3) Revising requirements for reinstatement of lapsed members in view of the change in dues.

A Subject and Speakers Bureau Committee, with Matthew Babey as chairman, has been organized. It will serve as a clearinghouse for speakers and topics, assist Sectional Program Committees when desired, and cooperate with other societies in arranging interchange of speakers. You may recall that at the 1954 Convention, our then president, Bob Bonnar, suggested a closer relationship with other societies. This Committee can be very effective in helping to accomplish this. Interchange of speakers can be very beneficial by having members of the different societies learn about the others. As the plans of this Committee materialize, their field of useful service will continually broaden. A survey is being started to accumulate records of papers and authors available, as well as of topics both technical and nontechnical on which papers are desired. This information will be available and of value to Sectional Program Committees and other societies as mentioned, and also to Corporate Members, suppliers, government agencies, public-relations departments, advertising agencies, schools and colleges. I would like to re-emphasize that this Subject and Speakers Bureau Committee is intended in no way to *supervise* Sectional program activities, but rather to *assist* program chairmen where possible—and only when assistance is requested—in bringing better and more valuable papers before the members of the Association.

According to our Bylaws, there are a number of Committees of the Council. The chairmen and members of these committees have always performed outstanding service. Among them there are three new chairmen and I want to mention them specifically. By reading the various items in the *American Dyestuff Reporter*, in trade publications and newspapers, you realize what a splendid job the Publicity Committee is doing under the chairmanship of Jim Doyle. It is natural that individuals or Sections are desirous of having their successful efforts or activities publicized. However, there is a two-way responsibility for complete publicity. Jim Doyle is keenly aware of his responsibilities. Are all the rest of us, individuals and sectional officers, equally aware of our responsibility in furnishing the information to him?

* Presented at the Annual Banquet, Carolina Room, Haddon Hall Hotel, Atlantic City, N J. on Sept 24, 1955.

The Intersectional Contest this year was a disappointment as far as the number of papers presented was concerned. The new chairman, Earle McLeod, knows from first-hand experience the length of time necessary to prepare a paper and has already been very active in arousing interest for next year.

I am sure every member realizes the magnificent work which the Corporate Membership Committee under the guidance of its chairman, Al Johnson, is doing. Our research accomplishments are largely responsible for having brought AATCC to its position of international prestige. This has meant competent and ceaseless effort on the part of countless volunteer workers. It has been supplemented by our Research Laboratories in Lowell. This entire program is financed by funds received from Corporate Members. The list of our Corporate Members may appear to consist of an appreciable number of companies. However, it is only a very small percentage of the total number of organizations which are benefitted directly by the activities of the Association. Al Johnson and his Committee cannot hope to properly reach all of the prospects. In many instances, the most effective efforts are in direct contacts. For this, the individual assistance of each member is necessary. The lack of response to pleas for assistance has been very disappointing. This whole program is so vital to our future progress, I want to make a special appeal to every one of you to get behind Al Johnson and give him any help you can.

The new *Colour Index* is in the proof-reading stage and it is now expected that ten years of strenuous efforts on the part of many individuals and companies will culminate in the four volumes being issued next year.

There is another activity that deserves special mention. Last Spring, the Educational Committee of the Philadelphia Section conducted a course on "The Theories of Dyeing" at the Philadelphia Textile Institute. This course was a great success. The number of applications for registration materially exceeded the original plans of limitation, so it was increased considerably. This Fall, two more courses are planned, one on "Thermodynamics and Its Application to the Theory of Dyeing," and another on "The Finishing of Textiles." The members of the Philadelphia Section are to be complimented for these splendid undertakings.

The plans for the Perkin Centennial are proceeding satisfactorily. Again, we are very fortunate that we have among our members so many capable men who are giving so generously of their time and ability. Never before has any professional society embarked upon such a comprehensive undertaking. Never before have so many professional societies cooperated in such a joint effort. The participating societies have a total membership of over 200,000 individuals, and over 3,000 companies. They have all entered upon the program with real interest and enthusiasm, which indicates the extent of the conviction that the one-hundredth anniversary of Perkin's discovery of mauve demands special recognition.

The foregoing has been a discussion of our Association as of now. A few items may have been overlooked, and, if so, apologies are offered. Of the past and present we all have reasons to be proud. The serious problem which confronts us is — what of the future? We have grown like Topsy. It is doubtful if any other professional society can equal our phenomenal growth in quality and quantity of membership, and extent of service to the industry. We now have international recognition and respect. This has been achieved by the voluntary services of hundreds of capable and energetic members who were desirous of assisting the industry in technical progress, which is so vitally essential. We must now make broader plans. The demands of industry upon its personnel are increasing daily. Everywhere we read that in all fields the supply of technically trained men is far below the demand. As a result the trained men presently serving have less time to devote to other activities.

Our problem is further complicated by the tremendous changes that have come to our industry since this Association was founded. Many of our members, like myself, entered the industry a number of years before there was an AATCC. At that time our operations were very simple compared to today. We had few fibers, mostly cotton, some wool, a little silk and linen. The types and numbers of dyes were very limited. The use of vat dyes was just beginning. Dyeing equipment was very simple. Technicians in the industry were very rare. We used to speak of "spoon dyers" who did not even have scales but used two sizes of spoons — teaspoons and tablespoons. Today a dyer or colorist must be almost a scientist — at least a technician. New fibers, new types of equipment, new classes of dyes, new finishes, and accurate control of numerous technical factors in processing necessitates highly trained, highly educated personnel. Years ago when backfilling was at its peak, there was a saying that some plants were so clever that all they needed to make a piece of cloth was a pair of selvages. The other day I was in the office of a plant manager. He referred to that old saying, showed me a piece of nonwoven fabric and said: "Look at this. Today they do not even need a pair of selvages!"

We hear frequent discussions of applied research versus fundamental research. It has been said that our members are interested only in practical "know-how," but science can solve many of the perplexities of practical "know-how."

Last Summer I attended the Textile Conferences of the Gordon Research Conferences. These are conducted by the American Association for the Advancement of Science. Under this sponsorship, they must be on the scientific level. I admit that a considerable amount of the presented material was over my head, but frequently the statement of a scientific fact shed light on what had been confusing to practical "know-how." One lecture was highly scientific, and during the question-and-answer period which followed one man said "What I want to know is . . . how can a dyer match a shade on that material?" The speaker replied: "That is one difficulty in a scientific discussion — every once in a while someone gets practical."

In his acceptance of the Olney Medal on Thursday, Miles Dahlen spoke of the necessity of reviewing our considerations of research. With this I agree. It is true that we should not try to compete with professional societies engaged primarily in fundamental research. Furthermore, we cannot undertake studies of subjects on which commercial organizations with enormous research programs are expending many thousands of dollars. However, as Miles so eloquently stated, we must give serious attention to fundamental research. His constructive suggestions can be followed without conflicting with the two basic premises just mentioned. Some of you did not hear the Medalist's Address. When it is published, I urge all of you, and in fact our entire membership, to read it carefully and make it a basis of future thinking. I would like to quote two sentences from that talk, which will, I think, convince you of the importance of this subject. "There are many who believe that, so far as the sciences with which our textile and related chemical industries are concerned, the exploitation of present basic knowledge is reaching the point of diminishing returns. The well of basic knowledge is running dry and we need more new fundamental work if we are to look forward to a prosperous future."

Many of our Corporate Members maintain extensive research laboratories. An increasing number of our members are engaged in research. We must avail ourselves of their help. We must welcome their willingness to divulge the results of their fundamental research and act as intermediaries between fundamental research and practical "know-how." Such cooperation can be of untold value.

Our principal field of endeavor is in the development of test methods. Our

research director recently gave me a list of the chairmen of our 36 Research Committees, which are concerned primarily with test methods. If you want to be inspired, I suggest that you look over this list. Here are research directors, technical directors, laboratory managers, and similar men from large and progressive organizations giving their time, knowledge and ability to Association affairs. They all have much more to contribute in science, fundamental and applied research. All of this should be made available to our members, and this can be done by our Publications Committee, our Sectional Program Committees, and an expanded research program.

In assuming the office of president of this Association, I appreciated the high honor which you bestowed upon me. At the same time, I realized that it was a great responsibility. Our secretary's report of membership, our treasurer's report and our budget show that we are no longer in the amateur class. There are five major divisions to our operations: administration, finance, publications, research and technical programs. These have all grown more or less independently. As a situation arose in one field, it was handled as an individual problem. The time has now come when all must be coordinated in a broad over-all plan so that our entire operation will proceed on an efficient, economical basis. We must function as a well-planned business organization. A number of our key men, on whom we have relied for years, are reaching the time when others will have to take on their responsibilities and burdens. As a result, we have organization problems confronting us in the immediate future. These will be studied, fitted into a comprehensive scheme, and presented to the Council.

Now, just a few words in retrospect — there is a saying — "Youth is the time of dreams, age of memories" —. Having reached the time of memories, I can remember when there was no AATCC, when the technician was not very highly regarded, when the aims of this Association would, in many instances, have been forbidden. I have lived through all this. My memory also tells me how those situations all changed as the Association grew and progressed. However, for me, this is not only a time of memories. It is also a time of dreams . . . dreams that those who follow after will not just take the AATCC for granted, but will realize that through it the industry, and particularly the technical men engaged in it, have grown in stature and become appreciated . . . dreams that they will follow the example of their predecessors and give it their best so that the splendid record will be maintained . . . dreams that to the members of tomorrow the AATCC will mean as much as it does to me today.

1955 National Convention —

RHODE ISLAND ENTRY TOPS IN 16th INTERSECTIONAL CONTEST

"The Effect of Mercerization as Related to Crush Resistance of Cotton", a paper delivered by W George Parks, Univ of Rhode Island, was judged the first-prize winner at AATCC's 16th Intersectional Contest, held on Saturday afternoon, September 24th in the Viking Room, Haddon Hall, Atlantic City, N J.

The paper is the seventh first-prize winner from the Rhode Island Section since the inception of the Contest in 1940. An annual competition, the Intersectional Contest pits the research committees of the participating Sections, which work throughout the year in the preparation of research papers on current topics of interest to the industry.

Alberic T Di Masi, Products Development Laboratories, served as chairman of the Rhode Island Intersectional Contest Committee, with William J Jutras, Jr, Gagliardi Research Corp, as vice chairman.

Second place honors went to the Philadelphia Section for its paper, "Dyeing of Wool with Direct Dyes", which was presented by F J De Maria, Para-Chem, Inc.

The Piedmont Section took third place with its entry, "Improvement of Crock Fastness in Naphthol-Dyed Fabrics," which was presented by R Hobart Souther, Cone Mills Corp. Edward A Murray, consultant, headed this committee.

The fourth entry, "A Study of the Soiling of Natural and Manufactured Fibers from Aqueous Systems," was presented by Ralph B Smith, New Jersey Laundry and Cleaning Institute, speaker for the New York Section.

The decision of the judges regarding the Contest winners was announced by Earle D McLeod, Arnold, Hoffman & Co, Inc, chairman of the Intersectional Contest Committee at the Association's annual banquet on Saturday evening in the Carolina Room at the adjoining Chalfonte Hotel.

Chief justice for this year's contest was W F Luther, Dixie Mercerizing Co. He was assisted by the following judges representing Sections: *Northern New England* — George O Linberg, Synthron, Inc; *Rhode Island* — Herbert S Travis, Rohm & Haas Co; *Western New England* — Thomas J Gillick, American Felt Co; *Hudson-Mohawk* — Albert E Herrmann, Jr; *New York* — John A Komninos, Waldrich Co; *Philadelphia* — Paul L Speakman, E I du Pont de Nemours & Co, Inc; *Piedmont* — Linton C Reynolds, Riegel Textile Corp; *Southeastern* — Hazel T Stevens, Florida State Univ; *Washington* — Louis R Mizell, Harris Research Labs; *Pacific Southwest* — Russell B Coleman, National Dyeing & Finishing Co.

* * *

Each of the four papers entered in this year's Contest will be published in its entirety in future issues of the REPORTER.

Hudson-Mohawk Section———

WOOL-SCOURING PROCEDURES*

H C BORGHETTY

Rohm & Haas Co
Philadelphia, Pa

INTRODUCTION

WOOL fibers require a thorough cleansing at three different stages of manufacture: namely, raw stock, yarn and piece goods. Therefore, the practical scouring procedures are governed by mechanical factors as well as by the nature of the impurities to be removed. In addition, an extremely important point to be considered is the control of the felting characteristic of the fiber. At any stage of textile processing, wool tends to felt when subjected to warm solutions, particularly if these are either acid or alkaline and accompanied by severe mechanical agitation, as is always the case in continuous operations. Scouring procedures in any one mill are thus predetermined by the intrinsic properties of the fiber, by the type of soil present, and by the mechanical equipment available. Raw wool contains the natural impurities of the fiber, whereas yarn contains a small residual amount of these plus the lubricants added to facilitate the carding and spinning operations. Piece goods, on the other hand, usually contain warp sizes and spinning oils together with the mechanical grease and dirt that becomes adhered during the weaving process.

WOOL-FIBER IMPURITIES——The natural impurities of the wool are present on the surface of the fiber as protective agents against the weather. The grease content protects the wool by acting as a water repellent and antifeltrant, while the perspiration protects the fleece against the action of sunlight. Both the grease and the perspiration are products of secretion of glands located at the base of the fiber growth. Grease is secreted in large quantities by the sebaceous glands, while perspiration, usually called by its French name, suint, is secreted by the perspiration glands.

The amounts of grease and suint exuded vary greately with the type and locality of the sheep, and, furthermore, particles of dust, dirt and vegetable impurities become embedded in the grease in greater or lesser quantities according to the environment and the methods of pasturing practiced in different countries.

H C Borghetty

The scouring of wool in the form of raw stock, yarn, or piece goods requires different mechanical equipment, scouring procedures, and detergent solutions in accordance with the state of the fiber, the natural or added impurities present, and the degree of cleanliness required from the cleansing. The speaker discusses these matters with special emphasis on the use of synthetic detergents, alkali, acid, continuous methods, counterflow principles, the recovery of by-products, and economy.

WOOL GREASE ——— The average amount of grease present in fine wools (64's and up) is 10-25%, whereas, for coarser wools such as carpet grades, the grease content can be as low as 3-4%. The suint salt content is between 2 and 12% according to the grade and origin of the fiber.

The quality of the wool grease present in the various types of wool is remarkably uniform from the point of view of removal during the scouring operations, but it is usually classed as an inconsistent product because of the great variation in quality and quantity of the grease fats recovered. The recovery of wool greases is carried out in order to utilize the waste products of raw-stock scouring, and it yields a valuable cosmetic ingredient termed lanolin. The inconsistency of wool greases is furthermore complicated by the scant knowledge available concerning its chemical constitution because all the products of recovery are usually so heavily mixed with soap, suint salts, and alkalies that it is difficult to ascertain whether the saponifiable-fat portion contained is an original constituent of the grease itself, part of the suint, or part of the soap that has been added during the scouring operation.

Many wool scourers are under the impression that wool grease is similar in constitution to the glycerides of animal fats and that it consequently is readily saponifiable during the scouring operation to form soaps that become the cleansing ingredients. This widespread assumption is incorrect because the suint salts present on the wool are already in the form of their potassium salts and therefore cannot be further saponified. The wool grease, in fact, when extracted from the fiber has been shown to be a nonsaponifiable wax-like compound that consists chiefly of cholesterol, a monatomic alcohol represented by $C_{26}H_{43}OH$. This, and its associated isomeric type, also present, are not saponifiable fats.

In addition, small amounts of two other fats have been detected, one called stearerin, which is nonsaponifiable, and a second designated elairerin, which is saponifiable. The saponification of elairerin, however, occurs only in caustic potash and cannot come about in the soda ash baths employed in scouring. These two fat components emulsify with great difficulty and only at the boil or in very alkaline environments. A typical "half blood" wool shows the following content *(1)* of fiber and impurities:

	%
Moisture	16.90
Wool fat	16.68
Other fat	0.42*
Water-soluble suint	10.30
Sand, dirt, etc.	3.62
Pure wool fiber	52.08

* As the quantity of potentially saponifiable grease is low (0.42), there is no justification for the exaggerated amounts of soda ash used in wool scouring. Soda ash quantities of 5-10% on the weight of the greasy fiber, corresponding to 10-20% on the weight of the clean fiber, are not uncommon amounts used on the finest wools in many scouring plants.

SCOURING PROCEDURES

SCOURING OF RAW STOCK——— Raw-stock scouring is based simply on an emulsifying process, the actual operation of which is carried out readily because of the ease of emulsification of the grease at temperatures above 120°F. The wax-like grease has a low melting point (120°F), but it is necessary to surpass this point in order to enter the best range of emulsification of 130 — 140°F. Under practical operating conditions it has been found necessary to operate at 120 — 125°F because of the sensitivity of the wool fiber

* Presented at the Chelsea House in Tribes Hill, New York, on Friday evening, April 15, 1955.

to alkaline attack above 125°F. Soda ash is very helpful in assisting in the emulsification process, principally because of its detergent effect and not, as is often considered, because of its saponifying action.

In the scouring of raw stock, which has first been opened mechanically, the standard procedure is to propel the wool by means of rakes through large tanks containing the scouring solution. The rakes automatically impart a continuous passage of the wool from one large tank to the successive one. These tanks, usually called bowls, contain 900 — 2500 gallons of solution and are equipped with rolls at the exit in order to squeeze the wool and retain the impurities in the bowl rather than on the fiber. In this manner the wool is progressively cleaned, and the final bowls have accordingly less detergency to perform than the first. There are always at least three bowls and often four or even five in the more modern plants. The solutions in the first bowls become quickly saturated with impurities.

From a bird's eye point of view, a continuous wool-scouring range, or Leviathan, gives the impression of an endless belt of wool floating through solutions and interrupted in its transition only by the squeeze rolls. At the exit of each set of rolls the fibers appear progressively cleaner until they pass to the final bowl, which contains a running warm-water rinse to assure that no dirt or alkali or grease is dried into the fiber. One thousand to 3000 pounds of greasy wool per hour can be washed efficiently by this means on a continuous round-the-clock basis. Well-trained wool scourers can distinguish at a glance the efficiencies of the various bowls and, by looking at the wool and checking color, odor and feel, often acquire a knack of operating very efficiently in a manner that puzzled textile chemists until the introduction of nonionic detergents brought about such an improvement in wool-scouring techniques that the skill of the wool scourer became greatly supplemented by that of the chemical engineer. The use of instrumentation controls and of up-to-date recovery systems aided in improving scouring techniques. Wool scouring can be made to run so efficiently and continuously as to appear quite simple, but actually great attention is required to details in order not to allow the solutions to become depleted or to become overloaded with accumulated dirt, suint and grease. A train running at full capacity must deliver clean wool that gives no trouble during subsequent carding and spinning. If the emulsification equilibrium of scouring is disturbed, the solutions become dirty and must either be discarded with consequent waste of time and chemicals or be bolstered while running. Under no condition can the scouring operation be neglected and allowed to deliver wool that necessitates rehandling. The accumulation of excessive amounts of impurities in the first bowls can cause a break in the emulsifying system, which can be avoided by constantly replenishing the scouring liquor and discarding the old solution on an intermittent or preferably on a continuous basis. In order to waste the least possible amount of chemicals, heat, and water and at the same time to eliminate the grease, this problem has been solved in

CHART I

COUNTERFLOW SCOURING

	Bowl 1	Bowl 2	Bowl 3	Bowl 4
Grease wool at 2000 lb/hr into Bowl 1				
Temperature in bowl, °F	100	125	125	125
Initial charge	none	soda ash, detergent	soda ash, detergent	none
Feed	none	soda ash, detergent	soda ash, detergent	none
Liquor supply for each bowl	liquor from bowl 2	liquor from bowl 3	rinse water from bowl 4	fresh water spray at 1000 gal/hr
Flow from bowls to (Flow from Bowls 2, 3 & 4 by pumps)	drain	bowl 1	bowl 2	bowl 3
Alternate flow from bowls to (For recovery of potassium salts from suint)	recovery plant	drain	bowl 2	bowl 3

CHART II

SCOURING WITH INDEPENDENT BOWL CIRCULATION

	Bowl 1	Bowl 2	Bowl 3	Bowl 4
Grease wool into bowl 1				
Temperature in bowl, °F	125	125	125	115
Liquor supply for each bowl	fresh water in small amount	fresh water in small amount	fresh water in small amount	fresh water in large amount for rinse
Flow from bowls to	recirculation by pump; small loss of liquor with wool impurities	recirculation by pump; small loss of liquor with impurities	recirculation by pump; small loss of liquor with impurities	drain

CHART III

INDEPENDENT SYSTEM WITH SUINT BOWL

	Bowl 1	Bowl 2	Bowl 3	Bowl 4
Grease wool into bowl 1				
Temperature in bowl, °F	125	125	125	115
Liquor supply for each bowl	rinse water from bowl 4	fresh water in small amount	fresh water in small amount	fresh water
Flow from bowls to	drain	recirculation by pumps; small loss of liquor with impurities	recirculation by pumps; small loss of liquor with impurities	bowl 1 by pumps

Note: The use of warm rinse water from bowl 4 conserves heat while permitting avoidance of build-up of dirt and harmful buffer salts in bowl 1, which cut scouring efficiency. Some plants have experimented with additions of caustic soda to bring the pH back to that of soda ash (11.2). This is too risky a procedure for practical use. Soda ash is known to clean wool at the beginning of a scouring cycle, but, as the pH drops because of the accumulation of salts, the scouring efficiency also drops (2).

CHART IV

RECOVERY SYSTEM ON FOUR-BOWL TRAIN

	Bowl (each of 2000-gal capacity)			
	1	2	3	4
Wool, 2000 lb/hr into bowl 1				
Temperature in bowl, °F	80-90	125	125	115
Liquor supply for each bowl	fresh water	liquor from bowl 3	liquor from recovery system containing alkali but no grease	fresh water
Initial charge	none	soda ash and nonionic	nonionic	none
Feed	none	soda ash	nonionic	none
Flow from bowl to	drain	recovery system	bowl 2	drain
Flow from recovery system: grease to lanolin manufacture; most of alkaline liquor to bowl 3, part to drain				

CHART V

SCOURING FORMULATION FOR A FOUR-BOWL TRAIN CARPET WOOL WITH 9% GREASE FED AT 2000 LBS/HR

		Bowl 1	2	3	4
Temperature, °F		70 water	120-130	120-130	100-120 running rinse
Initial charge (lb/1000 gal)	soda ash	none	30-100	10-30	none
	nonionic detergent	none	1-3	3-6	none
Feed (lb/1000 gal)	soda ash	none	20-60	10-20	none
	nonionic detergent	none	½-2	1-4	none

(All bowls independently operated)

European wool-scouring plants by the use of the counterflow system, which feeds fresh water to the final bowl and carries liquid backwards in contrary flow to the movement of the wool.

The drainage of spent liquid takes place in the first bowl only, thus permitting the water to be used over and over again. The cost of heating the solutions occurs only once, and, furthermore, any accumulation of dirt and grease in the first bowls is eliminated.

American designers of scouring equipment are cognizant of the value of the counterflow method and often equip the trains with pumping systems that counterflow automatically. Scouring plants, however, are apt to disregard this and to make the bowls function as independent units circulating within themselves. In this manner it is believed by many that there is minimum waste of chemicals in controlling the drainage of the accumulated waste products on an intermittent, daily, or hourly basis, instead of by continuous counterflow. The European system, however, is becoming more and more popular with us, particularly in plants that have learned to operate with low soda ash consumption and consequent less attack of the fiber.

One of the main reasons for the accumulation of liquids in the independently operated bowls is to conserve the alkali in the bowl because high total alkalinity gives good detergency. Recovery systems that remove the greases as they accumulate have been installed and operated in many plants by the American Chemical Paint Company of Ambler, Pa, to make possible an ideal method of scouring. The system used involves a centrifuge and the elimination of all water-soluble suint salts by drainage from the first bowls. These salts carry with them much of the dirt and mechanical impurities that would interfere with the centrifugal recovery system. By maintenance of the first, or suint, bowl at 80 — 90°F, no emulsification takes place and there is thus no loss of grease. The second bowl performs most of the degreasing function and is connected to the recovery system. The centrifuge separates and removes the grease from the solution and then returns the spent liquid containing the alkali and detergent to the third bowl. From here it is counterflowed back to bowl number two, thus making the two bowls and the centrifuge a closed system that can be operated for long periods without interruption or replacement of solutions except by a replenishment of chemicals on a constant basis per each 1000 pounds of wool entering the train. Each type of wool consumes a fixed quantity of chemical according to its grease content. To illustrate the various systems of scouring, charts I to V can be considered as representative of the most popular means of controlling the scouring flows and replenishments.

Many modifications of all the grease-wool scouring procedures are carried out, depending upon the number of bowls available, the grease content of the wool and advisability or economical advantages of recovery, the emulsifying and detergent agents employed, etc. Many plants neutralize, bleach or blue in supplementary bowls, some carbonize, some dry the wools for carding or baling, while others dye the fiber immediately after scouring. Chart V typifies an average wool-scouring log and indicates the quantities of alkali and nonionic detergent required. Many other considerations have been covered in articles by Borghetty *(3, 4)*, and Wolfrom *(5)*.

NEUTRAL SCOURING———A new method of scouring raw stock makes possible the use of a neutral solution at a pH of 6.5 — 7.5. This neutrality has been found beneficial to the fiber and, furthermore, imparts better carding properties. The procedure is based on the high efficiency of a specifically designed, nonionic detergent. The method can be operated on standard trains in like manner to the alkaline procedure.

ACID SCOURING———Acid scouring has not yet been largely used on raw stock in the USA because of the corrosion of the metal trains and because of the high temperature required (160°F), which makes working conditions uncomfortable. Acid scouring, which takes place close to the isoelectric point of wool (the neutral zone of the amphoteric wool fiber), has been claimed to give higher wool yields by ½ — ¾%. A nonionic synthetic detergent that is specifically designed for acid scouring is required in order to be soluble at the low pH range of 4.5 — 5.0 and to be self-emulsifiable in the grease at that pH. Only those nonionic surfactants made by reacting fatty alcohols with ethylene oxide have been found of value for this process, which was developed before World War II by the IG.

New detergents possessing rather unusual properties nad behavior in acid scouring have been introduced recently in large-scale trials and have shown good efficiency at 125°F. This eliminates the inconvenience of the fatty alcohol ether condensates mentioned above. The pH is still in the isoelectric range and is therefore ideally suited to wool processing. The corrosion can be controlled by the use of

organic acids having sequestering properties or by the use of bowl linings.

SCOURING OF TOPS———The operation of backwashing is carried out on the tops in order to remove the lubricants that have been added to the wool to facilitate either the carding or combing. Sometimes the wool has been scoured incompletely in order to leave about 1 — 2% of the grease on the fiber to act as a spin lubricant. Such a procedure is permissible mainly in wools that have been scoured with nonionic detergents because these materials are nonfatty in nature and do not give tacky lime soaps that would cause pilling, sticking or balling on the cards.

Backwashing is carried out by running the tops through small tanks that contain a detergent solution. The short immersion time of 10 — 20 seconds makes it imperative to use a quick-rinsing, nonsubstantive, synthetic detergent. The nonionics have acquired great popularity for this purpose because they answer the requirements of low-temperature scouring and quick rinsibility. A preferred type is the intermediately soluble, ethylene oxide condensate based on octyl phenol, and is used at one ounce to ten gallons at 100°F.

YARN SCOURING———The impurities to be removed during this stage of operation are principally lubricating or spinning oils. Their source of derivation varies all the way from soluble mineral oils to insoluble lard oils, so we are confronted with a problem that requires close selectivity of detergent in order to give a wide margin of detergent effect.

Synthetic detergents have superseded soap for this type of operation because of their two important advantages of stability to hard water and stability to the subsequent acid-dyeing process. Anionic surfactants, which were not mentioned under raw stock because they have not found use for that scouring purpose, are quite in order for yarn scouring and have been found very effective because of their level-dyeing properties. Nonionics are also very well suited, particularly for the removal of mineral-oil lubricants.

The methods of scouring yarn do not vary much in spite of the great variety of machinery employed. Generally speaking, for the continuous scouring of yarn in skein form the short period of contact time is compensated for by the long liquor ratios available.

CONTINUOUS SKEIN SCOURING———The skeins for this application are hooked end to end and are run through a series of 3 — 4 bowls as for raw-stock scouring. The skeins, however, are not free to move in the bowl and there are no rakes. The yarn is conveyed instead by a pair of endless chains that hold the skeins from moving sideways as they pass through the scouring solutions. In this manner no distortion of yarn, no entanglement, and no felting occurs. The scouring solutions are usually based on nonionic detergents at five pounds per 1000 gallons with or without mild alkali, such as TSPP at 20 pounds per 1000 gallons. The alkali is beneficial for the removal of lard-oil lubricants. The temperature of scour is best at 125 — 130°F, and the time of immersion is about 1 — 1½ minutes in each bowl. Cold water spray is usually given to cool off the yarns as they leave the warm rinse bowl so they can be held uniformly in anticipation of dyeing. Counterflow from the rinse bowl to the proceeding scouring bowls gives greater efficiency of operation whenever the scouring is carried out on a continuous shift basis. The detergent is best charged in bowls 2 and 3 and fed only to bowl 3. The running feeds vary between 2 — 3 pounds per 1000 lb skeins based on yarns containing 6 — 8% lubricant.

Klauder-Weldon skein-processing machines and other types, such as the Hussong and package machines, operate at a yarn-to-bath ratio of 1:8 to 1:20 and require longer treating times to remove all grease and lubricant. They differ from the continuous machines in the fact that the bath accumulates the grease from the yarn and is then discarded. This introduces a factor of waste which can only be justified by reducing the detergent concentration to the minimum of ¼ pound per 100 gallons in terms of 100% nonionic detergent. At a liquor ratio of 1:16 this corresponds to ½% on the weight of the fiber and is a sufficient amount to remove 8% lubricant if a time factor of at least twenty minutes is observed at 120 — 135°F.

ACID SCOURING———Acid scouring has been found advantageous for yarns that are to be dyed immediately following scouring. No intermediate rinsing is required, and this method offers a short cut compared with alkaline scouring at pH 10, which requires rinsing. The entrance of wool at pH 9 — 10 into an acid dyebath requires a longer time and a neutralizing effect before the dyeing process can begin; whereas, acid scouring does away with this inconvenience. The only detergents able to emulsify oils at pH 4 — 5 are condensates of fatty alcohols and fatty acids with a high proportion of ethylene oxide. They function best near the isoelectric range of the wool, and the operation usually requires 10 — 20 minutes at 160°F in the presence of 2 — 3% acetic acid and 1 — 2% fatty alcohol polyether condensate owf (on weight of fiber).

SCOURING OF PIECE GOODS———The impurities to be removed from piece goods are the same lubricants that are involved in yarn scouring plus warp sizes and loom grease and dirt. The scouring can take place at three different stages according to the type of fabric construction, whether woolen or worsted, or whether apt to crease or not. Fabrics that are fulled can be scoured as part of that operation by utilizing the emulsifying agents and alkalis used in fulling. The fabrics are brought to the Dolly machine immediately after being fulled and are run in water at 120°F with the gates closed until a detergent system is built up to give transference of the impurities from the 1:1 fulling-bath ratio to the 1:20 scouring ratio of the water solution. After 20 minutes the emulsification should be complete and rinsing can begin. For fabrics that are difficult to scour add one-half pound per 100 gallons fatty alcohol sulfate or oleylmethyltauride to the water in the washer or add one-half ounce per gallon nonionic detergent to the fulling solution.

For worsted, napped, or plush fabrics or for other types that are not fulled the scouring can take place on the continuous piece-goods machines with

2 lb fatty alcohol sulfate
4 lb TSPP

per 100 gallons at 130°F. Detergent is replenished at the rate of one-half pound and alkali at one pound per 100 pounds of entering cloth. The open washer should have 4 — 5 compartments, of which at least two are warm-water rinses.

SCOURING IN THE BECK———If scouring is carried out before dyeing in the beck itself, the concentration of detergent should be calculated to function at a bath ratio of 1:40 over a 15-minute period at 130°F. The detergent used should be a sulfonated type that imparts good lubrication and a cushion of suds to avoid creasing of the fabrics. It must be stable to the subsequent acid dyeing and, in addition, it should perform as a level-dyeing agent. Neutral scouring is better than alkaline scouring and should be used in most cases as it eliminates the necessity of rinsing. Alkaline scouring is necessary only where lard oil has been used as the lubricant. Acid-scouring agents can be incorporated directly with the acid dyes by using fatty alcohol ethers of ethylene oxide that have the dual property of decreasing and level dyeing at the same time.

REFERENCES

(1) *J Soc Chem Ind (London)* 28, 1020 (1909).

(2) Dubeau, A L, and Vincent, G P, "Chemical Control Gives Improved Wool Scouring," *Am Dyestuff Reptr* 35, P469 (1946).

(3) Borghetty, H C, "Synthetic Detergents in Textile Processing," *ibid* 37, P112 (1948).

(4) Borghetty, H C, "Nonionic Detergents in the Scouring of Raw Wool," *ibid* 36, P676 (1947).

(5) Wolfrom, R E· "Practical Aspects of Grease-Wool Scouring," *ibid* 43, P372 (1954).

New York Section —

PANEL DISCUSSION OF DYEING AND FINISHING*

Presiding Moderator: DONALD E MARNON

American Aniline Products, Inc
New York, N Y

Mr Marnon: Ladies and gentlemen, I hope you may enjoy with us the first quiz program of this Section. We have requested questions from various members, they have been screened by the members of the Panel and your Moderator, and they will be answered by selected members of the Panel. But we expect participation by and assistance from members of this audience also in posing and answering questions.

PANEL

PAUL J CHOQUETTE
General Dyestuff Co

JOHN A KOMNINOS
Waldrich Co

HARRY MOORE
Fair Lawn Finishing Co

JAMES H MURRAY
Consolidated Bleaching Co

FRED FORDEMWALT
American Cyanamid Co

Our first question: Compare the results obtained in dyeing by the Standfast process with those by other continuous processes.

Mr Murray: With regard to fastness, I think the Standfast process compares favorably with the other continuous processes involved or used in vat dyeing.

With regard to appearance I would compare it with the pad-steam process. There are certain shades on certain constructions which cannot be dyed best directly on the Standfast machine. They should be pigment-padded, dried, and then developed continuously by either Standfast or pad-steam.

I think the shades and the fabrics involved are usually the same as we find in the pad-steam process: blues, greens, etc on tightly woven mercerized materials.

Regarding results for length of run, I think the Standfast process is outstanding. There is no other continuous method that can handle short yardages.

Mr Jacoby thought two hundred yards was an awful short run. I have dyed about five shades of 20 yards each with vat dyes in this past week, perhaps not economically but at least we dyed them.

Q: I should like to know what types of weaves are not economically dyed on the Standfast machine.

Mr Murray: I think that when you get into the economics of dyeing you have to consider length of run, shades involved, etc. It is pretty hard to classify it as to types of weave. We handle fabrics from one-yard goods up or lighter.

The tightly woven fabrics are harder to dye by any direct-padding method or leuco-padding method. That is about the only way I could classify the types of weave, and there again I think it is a fault that is common to any reduced-padding method.

Q: Has any method been developed which will completely eliminate pilling on Dacron?

Mr Moore: Pilling, for the benefit of those who are unfamiliar with the term, is the balling up, on the surface of the fabric, of fibers that protrude through the surface. Wool has a tendency to pill, but, instead of remaining in small hard balls on the surface, they wear away or break off.

On the other hand, in the case of Dacron with its greater abrasion resistance and toughness the yarn does not break off readily and therefore must remain as pilled.

To minimize pilling one must first have the proper selection of yarns and the proper construction of cloth. For example, the plying of yarns, increasing twist, and the use of tighter weaves improve resistance to pilling. But from the finisher's point of view a combination of brushing, shearing, and proper singeing gives satisfactory results.

Q: What precautions should be taken in the finishing of Dacron to avoid pilling?

Mr Komninos: Actually, Mr Moore covered the three very important points — brushing, shearing, and singeing. I have seen it quite graphically illustrated in a pair of trousers I wear during the day's work; one leg of an all-Dacron pair of trousers pills a thousand to one against the other leg just because of the difference of treatment.

The biggest difference in pilling is made by singeing. Now, that might be a little misleading. It actually means precision singeing. We have a singer at one plant that cannot do the job, and so, unfortunately, we have to take goods five miles on a truck to our other plant to have the proper singeing done on 100%-Dacron suitings. This is also true for other types of suitings.

We have one rule of thumb that we use now — and I say now because we were not aware of all these conditions originally. No matter how light or heavy the fabric, if it contains spun Dacron, it should be singed. If you neglect singeing, it will take three or four, or perhaps even six months, before your customer will receive a garment from the ultimate wearer who has had it washed a few more times than average; you begin too see an effect that seems to create a new fabric. Actually, it will have a pile made up of Dacron pills. Singe the original fabric properly, and 80 to 90 percent of your worries are eliminated.

Q: Is there direct correlation between the amount of pilling and the amount of Dacron in a blend?

Mr Komninos: I think Mr Moore covered that when he said that the construction of a fabric has a lot to do with its propensity to pilling. There is some complicated physics involved here that has to do with friction and the tendency of helical shapes to unravel, etc.

An interesting thing that Mr Moore might want to comment on is the effect of a simple change in the form of the spun yarn in hindering or even preventing pilling.

Mr Moore: This was an experiment run by the DuPont Company in attempting to eliminate pilling. They wire-brushed the fabric and then overfed it on a pin frame, causing a shrinkage of about four percent. The shrinking and heating at that point caused the fiber, which would normally pill, to have a cross section similar to a ribbon. Instead of twisting and turning it could bend only two ways, and therefore they believed that they were able to cut down on the amount of pilling. They may still be continuing their work, but I have not heard anything more about it.

Q: Does singeing have any effect on the dyeability?

Mr Moore: Well, naturally, if the fab-

* Held in the Keystone Room of the Hotel Statler, New York, N Y, on Feb 25, 1955.

ric were singed without shearing and then dyed it definitely would have an effect because some of the melted surfaces would give a spotty effect. It is better to singe or to shear and singe after dyeing.

Q: What colors would you recommend for the dyeing of Acrilan-wool blends?

Mr Choquette: After hearing some of the problems in connection with the preparation of fabric and finishing I think we can easily pay a tribute to our dyers and finishers for the fine results they have produced with some of the newer synthetic fibers.

It reminds me of open house in the dyeing and printing industry when we had customers who visited the plant. Such a tour gave them a better idea of the number of steps that a fabric goes through before it reaches the finished state and of the possible delays that may occur.

The dyeing of Acrilan-wool, as well as of many of the other new blends, has been a challenge to the dye manufacturer and to the manufacturer of auxiliaries. Very often we are asked why one has to use these new auxiliaries in a particular dyeing problem. Well, these problems have required new approaches, and there is no other way in many instances to accomplish the end result without these special tools. Acrilan-wool is no exception.

Acrilan requires sulfuric acid for penetration. In addition, a blend with wool in most cases requires an auxiliary of a cationic nature, which decreases the affinity of the wool color for the wool. Under such conditions, selected chrome colors, namely, those that chrome most readily, can be applied to Acrilan-wool blends in the presence of the cationic assistant. As time goes on, additions of sulfuric acid are made, and dyeing is conducted close to the boil 210°F. With time there is a build-up of the dye on the Acrilan, and at the conclusion of several hours dyeing at 210°F a point will be reached where you have a union. There are a certain number of selected acid colors which yield fairly satisfactory unions without the assistance of a cationic auxiliary, but in general the use of this auxiliary is necessary.

You have other types of dyeing which are a challenge to the dyer's ingenuity. For light to medium shades it is found necessary to use selected basic colors for the Acrilan to obtain good light fastness. These colors were developed principally for Orlon and offer a nice range of shades. You have various brands—Genacryl, Sevron, Diorlene — and these colors may be applied to a union of Acrilan and wool, combined with selected disperse-type dyes to yield shades of satisfactory fastness. Neutral-dyeing premetalized colors are used for the wool. Best fastness properties are obtained with the chrome dyestuffs. Premetalized, neutral-dyeing premetalized, and disperse dyes yield satisfactory results for dark shades, except in those instances where the fastness to perspiration is not satisfactory. Acid colors are used for light shades.

Q: What is a practical way to dye 1955-production Acrilan in an Acrilan-nylon blend and leave the nylon undyed?

Mr Kominos: Well, I think there is a way to dye Acrilan and leave nylon undyed. How practical it is has to be answered in the future; we shall give you a method now with qualifications.

In our work we have examined over 100 acid-type dyes of several classes in self shades at a 1:20 liquor ratio and at depths of one, two, and three percent. Among those hundred acid dyes we found ten or twenty covering a full range of primary shades that leave nylon undyed. We ran into difficulty, however, in trying to make secondary or tertiary shades of these ten or twenty highly selected colors, discovering a mysterious phenomenon that we are at a loss to explain. When two dyestuffs were used together, one encouraged the other to stain, or one was jealous of the other getting into the act and blocked it out. We have been able to deliver certain shades in limited quantities on a commercial basis, however, in which only the Acrilan was dyed, but only where our customers allowed us the latitude of selecting the shades.

Q: In dyeing wool and Acrilan can you use a wool resist to any advantage?

Mr Choquette: In our experience we have not found a wool resist of any assistance in dyeing Acrilan-wool unions, that is, solid shades on both fibers.

Q: How about cross-dyeing heavy shades on wool and very bright shades on Acrilan? How about keeping the color from transferring from the wool to the Acrilan?

Mr Choquette: In this instance a nylon resist is of help. This type of product has more affinity for the Acrilan than the wool, and it is possible in such cases with selected shades to get cross-dyed effects. Selected basic and disperse dyes are used for the Acrilan and neutral-dyeing premetalized dyes for the wool.

Q: In speaking of the new synthetic fibers, just what is meant by the term heat setting?

Mr Moore: Well, before giving a definition of heat setting it is first necessary to know that an important characteristic of some of the newer synthetics is their ability to assume and retain a set. Basically, I would define heat setting as subjecting the fiber to a temperature at which a rearrangement and fixation of its internal molecular structure takes place. Internal stresses are released and the fibers tend to assume the structural arrangement under which they were set.

Q: Is there any yellowing of the fibers such as Dynel or Acrilan during heat setting?

Mr Moore: In general during heat setting there may be some yellowing, yes.

Q: And that would be overcome?

Mr Moore: I know that the DuPont Company has had a research program going on for at least three years for nylon. The most successful preventives have been antioxidants, but heat setting at high enough temperatures produces yellowing in spite of the minimizing effects of the antioxidants.

Q: How can goods containing dead cotton be vat-dyed without prior mercerization?

Mr Murray: The classic way of covering dead cotton satisfactorily is to mercerize. Certain shades — usually dark green and other dark shades — show a speckiness due to a preferential dyeing between the mature and immature cotton when dyed by pad-jig or jig methods.

However, it is possible to dye the same shades by a continuous method with the same dyestuff combination by the pad-steam or the Standfast method and to get very good coverage on the so-called dead cotton. If these continuously dyed shades are rehandled on a jig for any reason, such as to correct an offshade or a fault in preparation, the speckiness may reappear. It is then necessary to mercerize and redye.

Q: Does mercerization always overcome the speckiness due to immature cotton?

Mr Murray: Of course speckiness is perhaps more noticeable in naphthol than in vat dyeing. Mercerization normally will overcome the difficulty, that is, produce solid shades; and certainly mercerization would be recommended in any naphthol dyeing where the fabric involved contained dead cotton.

Q: Will causticizing alone without mercerizing tend to do away with speckiness?

Mr Murray: In my experience the concentrations of caustic must be so high that you need a mercerizing range. I have handled cloths where caustic at 42°Tw has been necessary. Treatment with caustic soda of 35°Tw would not permit later production of a good level dyeing. I would say that in severe cases a real mercerization is necessary.

Q: When Indigosol colors are being printed, what causes some of them to develop prematurely in the color tub?

Dr Fordemwalt: The most important factor in the development of Indigosols is

the acidity of the mix, or the pH. Now, all of the Indigosols show essentially the same development characteristics with the exception that the pH required varies from one dye to another. For example, where one color under a given set of conditions might develop quite rapidly at a pH of 5, another color in the same kind of paste would require a lower pH, say a pH of 3; so, when a mixture of colors has to be printed together we are confronted with the problem of fully developing the slow one and of not having the fast one develop too fast. If the development occurs prematurely in the color tub, it just means, in all probability, that the acidity in the mix is too great for some one component in the mixture.

Q: What are the advantages associated with the application of an acid leuco vat to offset the preparation difficulties?

Mr Murray: In general, the advantage of the use of an acid leuco of the vat dye as compared with pigment is usually found in the pad-steam process, where again certain shades on certain constructions give poor surface effects when pigmented. I am referring to the wet pad-steam method rather than to the process where we have an intermediate drying operation. By the use of the acid leuco in the padding operation, we are often able to overcome the poor surface effects, the nubbiness that we sometimes find in pigment padding.

Mr Hannah (from the audience): When we first started, we tried pigment-pad wet with subsequent chemical pad-steam, and the dead cotton came up over-dyed. When the dead cotton comes up overdyed, that is just as much a disadvantage as not dyeing it at all.

Then we tried reduced-pad wet with subsequent chemical pad-steam. That also caused the dead cotton to come up too dark. Then we tried the vat-acid method and got the best results.

Another advantage of the vat-acid over the pigment-pad method, is that, in pigment-padding, there is always a liability of having speckiness due to the dyestuff not being finely dispersed, whereas with the vat-acid method you are always getting an excellent dispersion because you start from the reduced color and a finer dispersion than is possible with unreduced pigment.

Another thing is that, if you are working with a bleachery, you are working with the other fellow's goods. You can get combed goods and carded goods; you will have no choice in the matter. You always have more or less preparation trouble in the bleach house, and we found out that the vat-acid method will cover up faults better than the other two methods. Naturally, nothing will overcome resists and blotchiness, but the acid leuco will cover these faults better than pigment-padding or reduced padding.

Q: Why do spun linens change color when they are pressed or pleated?

Mr Komninos: That is pretty close to a recent experience that I had with a California manufacturer of sport shirts and casual dresses.

The spun linens, or linens as they are called in the trade in New York, are not linen at all; they are various related constructions of spun viscose dyed with good direct resin-type colors and properly treated—and not necessarily afterwashed. If the garments are cared for as spun viscose, they will serve well for three or four years as useful garments.

My experience has been that the merchandiser often neglects to advise the people subsequent to him that what he is calling linen is really spun viscose. The specific experience we have had was that the irons that were pressing spun linens were set to linen temperatures. The goods were then naturally subjected to temperatures that the colors and the resins could not take. As a result, acidity was developed that made the dyed goods appear very much like an acid-base indicator; so much so that just a steaming with ammonia would bring back the shade.

The only thing to do is to keep everybody informed. It is a problem of proper labelling and knowing that each person along the line knows that he is working with direct-dyed spun viscose aftertreated with resins rather than with true vat-dyed Irish linens.

Q: Would that occur if an organic catalyst were used in the resin finish?

Mr Komninos: This question is loaded. I think those people who are actually resin-finishing some of these spun linens are well aware that the organic, or amine hydrochloride, type of catalyst is a little superior to the inorganic sulfates and hydrochlorides. I would say there is less chance of running into trouble with organic hydrochloride catalysts than with inorganic in this problem.

There is quite a bit of literature on the reducing ability of viscose on prolonged boiling or prolonged steaming. This can be shown graphically by simply adding viscose fabric, caustic soda, and vat dye to an aqueous bath at the boil. The viscose will be dyed because of its reducing action.

Q: How should sunlight fading tests be carried out?

Dr Fordemwalt: That is a very important question right at this time, and it is also somewhat controversial. There is a lot of attention being given to this subject by a number of groups, and certainly nobody is doing any finer work on that than the Committee of our own Association. In all probability we will have a definite answer to that question within this current year. At the present time probably the best we can do is to generalize a little.

A sun-fading test, like any test, must be reproducible if the test is to be considered reliable. If we are going to get a reproducible result we are going to have to carry out our exposures under conditions of known sunlight intensity. Until a better integrating device has been produced, I think it will mean that our exposures will just have to be carried out under circumstances where we know exactly how many hours of sunlight are involved. As to just how that is going to be done, I prefer to wait and see what our Committee comes up with.

Q: How about Weather-Ometer testing?

Mr Marnon: Most laboratories do have Weather-Ometers that subject fabrics not only to light but also to weathering conditions. It is true, however, that much work remains to be done to correlate Fade-Ometers, Weather-Ometers, actual sunlight, wind, and rain.

Q: What are some of the factors to be considered in the dyeing off Dacron-wool piece goods?

Mr Choquette: Dacron-wool piece goods can be dyed satisfactorily in the popular dark-navy-blue, dark-brown, and charcoal-gray shades. Extreme care must be taken, however, in following the proper processing details. The first detail is the selection of disperse dyestuffs that stain wool to a minimum degree. Any excess staining of the wool contributes to poor drycleaning or light fastness.

Secondly, a perfect dispersion of the carrier, orthophenylphenol, is necessary. A poor dispersion will cause spotting of the goods and resultant trouble. It is also necessary in dyeing such blends to make sure that the carrier is added very uniformly. Any uneven absorption of the carrier will result in uneven dyeing. A popular method is the use of Dowicide A, which is a sodium salt of orthophenylphenol, at five to seven grams per liter, or 20 to 23 percent owf, and an equal amount of diammonium phosphate.

According to this method for Dacron-wool blends, the dyebath is set at room temperature with as much diammonium phosphate as the total amount of carrier to be employed. The previously scoured goods are run in the bath for 5 to 10 minutes, and then half of the separately dissolved Dowicide A is added gradually while the goods continue to be worked for 10 minutes at room temperature. The

(Concluded on Page P736)

Northern New England Section

SELECTIVITY FACTOR — ITS INFLUENCE ON PADDING*

CHARLES P RILEY

A method for the determination of preferential sorption effects of fabrics in pad baths of finishing agents was devised. This method involved the use of the ratio of the amount of finishing agent actually deposited on the fabric to the amount that theoretically should have been deposited in the padding operation. This ratio was called the "Selectivity Factor."

It was found that the selectivity factor is a function of the type of agent in question, the nature of the agent, and the manner in which the fabric is padded with the agent.

INTRODUCTION

IN recent years, many workers have noted that yarns or cloth, when immersed in a water solution or a water dispersion of a chemical, display a marked selection for either the chemical or the water.

Zimmerman and Royer*(1)* initiated work on the preferential sorption of cloth for dyes in water solution during the padding operation. These authors devised a ratio between the dye actually adsorbed by the fabric and the amount that theoretically should have been adsorbed by the fabric. They have referred to this ratio as the "dye pick-up factor."

The dye pick-up factor is obtained by dividing the amount of dye actually on the cloth, as determined by analysis, by the amount that should be on the cloth as calculated from the wet pick-up, and then multiplying this factor by 100.

A dye pick-up factor that is greater than 100, therefore, indicates that dye was preferentially removed from the pad box, whereas a factor of less than 100 indicates that water was preferentially sorbed from the pad box.

Under ideal conditions, the water and the dye are picked up at the same rate and the dye pick-up factor is equal to 100.

In the case of dyes, the phenomenon of preferential selection can be observed visually as the familiar tapering effect. With regard to finishing agents, whose effect is that of a change in hand or physical properties, the question arises as to what preferential sorption effects, if any, are present.

With reference to the finishing industry, Marsh*(2)* has noticed a preferential sorption effect in the mercerizing process. He found that, in this process, the cotton cloth showed a preferential selection for the sodium hydroxide over the water. He determined that a higher concentration of alkali had to be used in order to allow for the amount of alkali that would be preferentially absorbed in the process.

In this investigation, the ratio that was devised by Zimmerman and Royer*(1)* was used but was renamed "Selectivity Factor." This nomenclature was decided upon as a result of Marsh's work*(2)* with the selective sorption of alkali by cotton, and it is thought to be more descriptive of the mechanism of preferential sorption of finishing agents by fabrics.

Figure 1 portrays the relative effect upon a fabric that displays a preferential sorption effect in the padding operation. Considering a pad bath of a 10% solids content, the effect of a selectivity factor of greater than one is that of an increase in added weight as shown. The effect of a selectivity factor of less than one is shown to be that of a decrease in added weight from that expected.

Under the ideal condition or the case in which the selectivity factor is equal to one, the percent of add-on is equal to the solid concentration of the pad bath multiplied by the wet pick-up. Normal procedure is based on this premise.

Referring once again to the case in which the selectivity factor is greater than one, the effect of this solid selectivity is that of diluting the pad bath, as the solid is being removed at a greater rate than is the water, or the water is being thrown back into the bath. In the case of the selectivity factor that is less than one, the effect on the pad bath is that of concentrating the bath, as the water is being taken up at a greater rate than is the solid material, or the solid is being thrown back into the bath.

EXPERIMENTAL PROCEDURE

The selectivity factor is calculated as follows:

$$SF = \frac{\text{(Percent by lab analysis)}}{\text{(Conc) (Active solids) (WP) (100)}} \quad (I)$$

$$WP = \frac{A - B}{B}$$

$$\%\ \text{by lab anal} = \frac{C - B}{B} \times 100$$

A = Wet wt after padding
B = Oven-dry wt before pad
C = Oven-dry wt after pad

In the utilization of formula I there are two basic measurements necessary, namely, the wet pick-up and the percent by laboratory analysis. The wet pick-up was determined in this work by dividing the difference between the wet weight after padding and the oven-dry weight of the sample before padding by the oven-dry weight of the sample before padding. The percent by laboratory analysis of the amount of finish actually deposited was determined by dividing the difference between the oven-dry weight of the sample after padding and the oven-dry weight of the sample before padding by the oven-dry weight of the sample before padding. This procedure was decided upon after a careful search of the literature ruled out the possibility of removing the finishing agents from the fabric and analyzing them quantitatively.

The values for concentration and active solids are used in this determination as decimals, the concentration being the amount of finishing agent decided upon to produce the desired effect in the fabric. The active solids value refers to the amount of solid material that is actually present in a finishing agent as specified by the manufacturer.

The padding operations in this investigation were carried out on a Butterworth three-roll laboratory padder with a maximum nip pressure on gauge of 60 psi. The padder was equipped with the necessary attachments for double immersion padding.

The oven-dry weights utilized in this investigation were obtained in a Cenco oven with a basket and analytical balance attachment. The wet weights after padding were also obtained on an analytical balance.

The experimental procedure for the determination of selectivity factor entailed the following sequence of operations:

* This paper is a condensation of a thesis performed by the author under the direction of Prof John J McDonald, for the degree of Master of Science at Lowell Technological Institute. It was presented on April 22, 1955 before a joint meeting of the Northern New England Section and the Lowell Technological Institute Student Chapter.

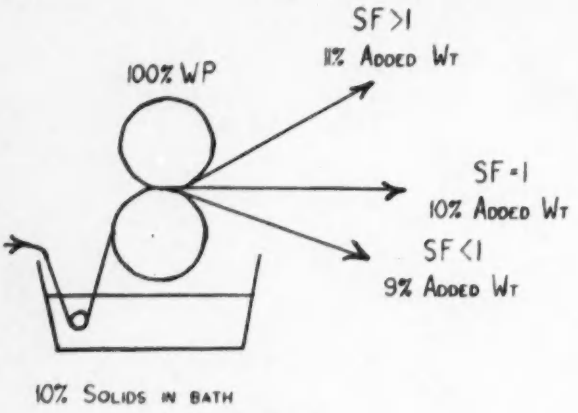


Figure 1

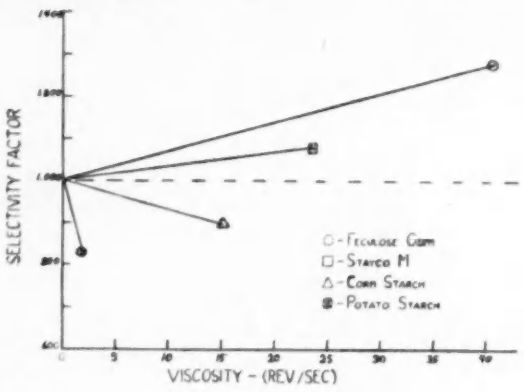


Figure 2

1) Obtaining the oven-dry weights before padding.
2) The padding operation. (Three samples at each pressure).
3) Weighing the wet fabric after padding.
4) Drying the wet fabric after padding.
5) Obtaining the oven-dry weight after padding.

With thermosetting resins, a curing operation and a washing operation followed the determination of the oven-dry weights after padding. After the washing operation, the sample pieces were again dried and the oven-dry weights again taken.

There are a considerable number of finishing agents available to the textile industry that may be applied by the pad technique. However, most of the common agents in use can be classified in four or five main groups. For this work it was decided, therefore, to select individual agents from the most common groups and attempt to typify the results as being representative of the groups.

The following groups were selected as being representative:

starches
thermosetting resins
thermoplastic resins
elastomers
repellents

In working with these, we used 80 x 80 percale sheeting, which was desized, scoured, and peroxide bleached. This fabric was selected because of its extensive use and ease in wetting out.

All paddings were of the double dip — double nip type unless otherwise specified.

The following starches were selected for padding:

potato starch
corn starch
Stayco M (an oxidized corn starch)
Feculose Gum (an acetylated corn starch)

DISCUSSION OF RESULTS

STARCHES ——— In the starch paddings, the selectivity factor was found to vary inversely with the viscosity (see Figure 2). With the high-viscosity starches, such as potato starch and corn starch, a selectivity factor of less than one was calculated. This indicated water selectivity. With the low-viscosity, modified starches, a selectivity factor of greater than one was obtained, which indicated that solid selectivity was taking place.

It was also found in this work on starches that the selectivity factor varied inversely with the wet pick-up as well as with viscosity. This presumably indicates that the fabric became selective towards the water over the large particle size of the starch at high viscosities, but solid selective at the low viscosities of the modified starches.

THERMOSETTING RESINS ——— The thermosetting resins utilized in this work were Prym CR and Aerotex Resin M-3. Prym CR is a cellulose-reactant-type resin, whereas Aerotex Resin M-3 is of the trimethylated-methylolmelamine type.

In the padding of these resins, it was found that the selectivity factor after washing varied directly with the padding pressure and inversely with the wet pick-up, the percent total resin, and the percent fixed resin.

The relationship between the selectivity factor and the nip pressure is shown graphically in Figure 3. From this figure it is readily apparent that both resins showed very definite tendencies toward water selectivity at all nip pressures. It is also noted that selectivity factor appears to be a function of the degree of penetration with this type of agent as evidenced by the highest selectivity factor value being found at the highest nip pressure.

From the data obtained with the thermosetting resins, it is readily seen that these agents should be padded at high nip pressures. This type of padding would tend to concentrate the bath less, yield higher retentions of resin, and would save on drying costs before curing because of the larger amount of water removed at the nip.

THERMOPLASTIC RESINS ——— In the study of thermoplastic resins, the Merlon KR series was used. This series is composed of a group of stable polyvinyl acetate dispersions in water. This series was chosen because it offers a fairly wide range of viscosities, particle sizes, and types of polymers.

Among the individual agents of the Merlon KR series, the selectivity factor was found to vary directly with the wet pick-up and inversely with the nip pressure, except in the case of the Merlon KR-4, which is the most viscous. With this resin, it was found that different nip pressures had no significant effect on the selectivity factor and it appeared that a condition of saturation of the fabric had been reached at all nip pressures. The relationship between selectivity factor and nip pressure is shown in Figure 4.

With this series of agents it was observed that the selectivity factor, at all pressures, increases with agents of increasing viscosity. The Merlon KR-3 represents the lowest viscosity resin and the Merlon KR-4, the highest viscosity resin of the series. This observed increase in selectivity factor with an increase in viscosity is in direct contrast to the results of the starch paddings in which the selectivity factor decreased as the viscosity increased; yet these resins are often utilized as replacements for starches where greater durability of finish is desired.

The selectivity factor in the Merlon

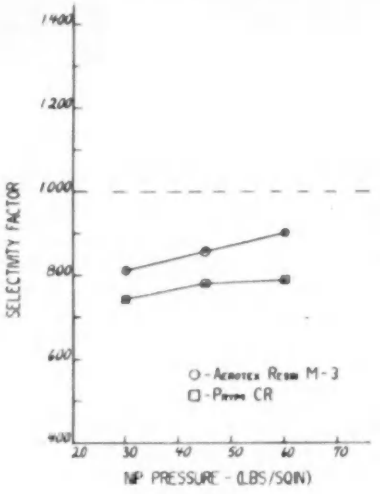


Figure 3

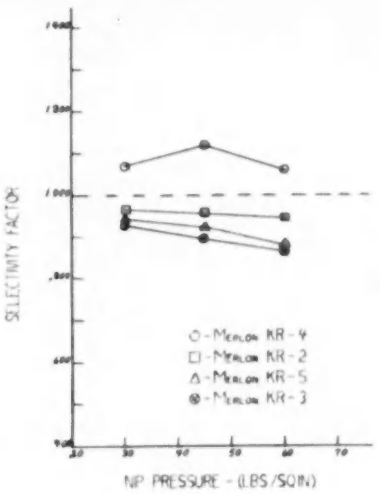


Figure 4

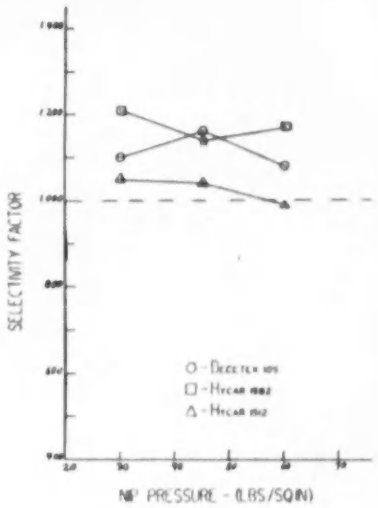


Figure 5

KR series was also found to be independent of particle size and the type of polymer in use.

ELASTOMERS ——— For use in the investigation of elastomers, Hycar 1512 and Hycar 1562 were selected. These agents are copolymers of butadiene and acrylonitrile and are produced commercially as water dispersions.

With Hycar 1512 the selectivity factor was found to vary directly with the wet pick-up and inversely with the padding pressure. At high padding pressures a slight tendency toward water selectivity was noted, but at the medium and low padding pressures solid selectivity was observed.

With Hycar 1562 the selectivity factor did not vary significantly with the padding pressure (see Figure 5). The selectivity factor showed a very strong tendency toward solid selectivity at all padding pressures and a condition of apparent saturation of the fabric at all pressures existed.

REPELLENTS ——— Dow Corning Emulsion 105 was utilized in the investigation of the preferential selectivity of the fabric for repellents. This agent is produced commercially as a stable water emulsion of a silicon compound.

With this type of finish the selectivity factor did not vary significantly with the nip pressure (see Figure 6). A saturation effect and a strong tendency toward solid selection were observed at all nip pressures.

VARIANCE IN IMMERSION PADDING ——— In order to determine the effect of the number of dips and the number of nips in the padding operation upon the selectivity factor, paddings were run with Merlon KR-3, utilizing the double dip-double nip and the single dip-single nip technique. The threadings of the pad using each technique are shown in Figure 7.

From the plotted results in Figure 6, it can be seen that the single dip-single nip paddings revealed a selectivity factor of greater than one at all pressures. The double dip-double nip paddings, however, showed a selectivity factor of less than one at all nip pressures.

Mann(3), while working with the padding of direct cotton dyes in water solution, found that the ratio of dye and water that is taken up by the fabric approaches the concentration of the dyebath for small times of immersion. He has shown this to be true because of the fact that the differential effect associated with the penetration of water into cellulose has insufficient time to become apparent.

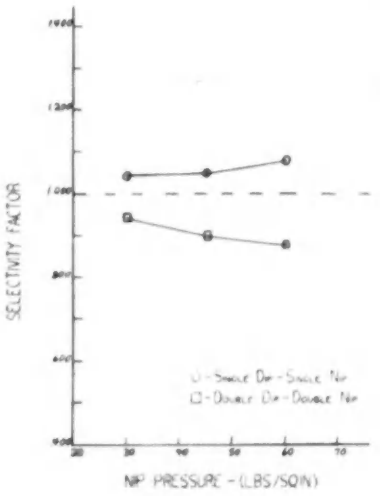


Figure 6

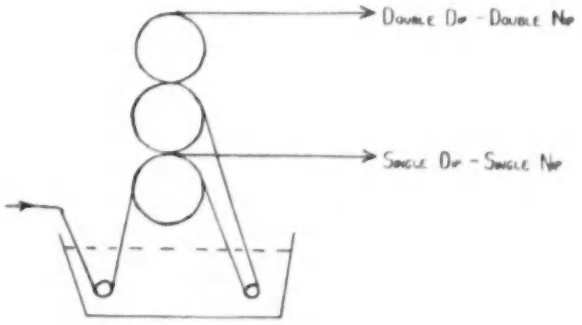


Figure 7

In the case of the single dip-single nip paddings versus the double dip-double nip paddings, the effect of the second dip and the second nip appears to be that of allowing more time for preferential sorption effects to take place. Referring again to the plotted results in Figure 6, it is seen that the results of the double dip-double nip paddings tend to vary more from the ideal condition, in the direction of water selectivity, than do the results of the single dip-single nip paddings. More work must be done on this subject, however, before a definite mechanism can be proposed concerning this phenomenon.

SUMMARY

1) The selectivity factor is a function of the specific type of finishing agent in use.

2) The selectivity factor is a function of the number of dips and nips and thus the manner in which a fabric is padded with a finishing agent.

3) In general, with cotton percale sheeting, surface deposition agents, such as thermoplastic resins, reveal a tendency toward solid selectivity; whereas interior reactants, such as thermosetting resins, display a tendency toward water selectivity.

4) The solution to the problem of preferential sorption effects in the padding operation merits the adoption of the horizontal pad or like short pad baths with continuous feeding mechanisms.

REFERENCES

(1) Zimmerman, C L, and Royer, G L, "A Laboratory Study of Padding — Part I, Cotton," *Textile Research J* 18, 615 (1948).

(2) Marsh, J T, "An Introduction to Textile Finishing" 4th Edition, Volume I, p 113. John Wiley and Sons, Inc, New York (1951)

(3) Mann, H B, "The Basic Mechanism of Dye Absorbtion during Pad-Dyeing," *J Soc Dyers Colourists* 71, 7 (1955).

Panel Discussion

(Concluded from Page P732)

balance of the dissolved Dowicide A is then added in portions as the temperature is raised gradually to 140°F; and then half as much Tetrapol, as Dowicide A, to maintain a finer dispersion of orthophenylphenol from the Dowicide A, to promote penetration, and to assist the carrier action. After 10 minutes' running at 140°F, the disperse dye and the separately dissolved wool dye are introduced in such a way as not to come directly into contact with the material. The temperature is finally (gradually) raised to the boil, and dyeing is continued at the boil for about 1¾ hours.

After the proper shade has been attained, the bath is dropped and the goods are rinsed in hot water. The blend is now scoured at about 120°F for at least 15 minutes with ½ to 1% of synthetic detergent owf in the presence of 10% of diammonium phosphate owf, which promotes better cleansing without causing undue bleeding of acid dye from the wool.

If the light scouring just described leaves enough stain on the wool to impair light and perspiration fastness, a cross-dye procedure is recommended. In such a procedure the Dacron is first colored separately with disperse dyes and then the blend is scoured for at least 15 minutes at about 140°F with ½ to 1% of synthetic detergent and 1% of soda ash and rinsed. If this scour does not remove the stain from the wool adequately, the dyeing may be treated with 1% of sodium formaldehydesulfoxylate in the presence of 3% of formic acid, 85%, above 160°F, both owf. The wool of the well-rinsed goods is then brought to shade with suitable wool colors by wool-dyeing methods

In some cases, instead of using the sodium salt of orthophenylphenol, a stable dispersion of orthophenylphenol is employed. The method of operation is very similar to the method which I have just described. I have a few samples of dyed Dacron-wool fabrics here which you are welcome to inspect after the meeting.

Q: Is pH critical in the dyeing of 100% Dacron with disperse dyes?

Mr Choquette: In general it is presumed that you will obtain better results in slightly acid than in neutral solution.

Q: Is there an optimum pH?

Mr Choquette: The range of pH is three to five.

Q: In dyeing rayon-Dacron by the one-bath method in the presence of Dowicide A, is it absolutely necessary to scour after dyeing to eliminate a dermatitis problem later on?

Mr Choquette: I would say that in all cases it is desirable to scour thoroughly. Apart from the dermatitis problem, any orthophenylphenol left in the Dacron is likely to impair light fastness. A thorough scouring after dyeing is therefore always recommended.

Q: In other words, it is impractical to use the one-bath process for dyeing Dacron and rayon by the Dowicide method because the dyer might lose his shade if he did scour?

Mr Choquette: I would say it would be desirable in the case of the Dowicide A method to use the cross dye method, in other words, dye your Dacron, bring it to shade, and then clean your rayon and bring your rayon up to shade in a fresh bath. In union-dyeing Dacron-rayon in the same bath, use has been made of an emulsified chlorinated benzene which permits dyeing in the same bath.

Precautions should be taken in such cases to have good ventilation inasmuch as chlorinated benzenes are very toxic.

Q: You say it is essential to clean out the orthophenylphenol from a Dacron-rayon dyeing? How would you do it from a Dacron-wool dyeing?

Mr Choquette: Well, you give the material a very thorough scouring at 160°F with the best detergent you have. However, even then the light fastness may be slightly impaired by a little orthophenylphenol that is left in the goods, but in the case of dark shades the end result is considered satisfactory.

Q: Is it not true that orthophenylphenol is readily soluble only in caustic solutions? In other words, you really do not get it out unless you use caustic, and obviously you cannot use caustic on a Dacron-wool mixture, so you do the best you can; is that right?

Mr Choquette: That is correct.

Q: Can you tell us a little about Arnel?

Mr Moore: Naturally, in this short time I could not begin to tell you about Arnel, but this I can tell you: At the April meeting Fred Fortess of the Celanese Corporation of American will deliver a paper on Arnel. He will have lots of samples and all the latest information. It is a meeting you will not want to miss.*

In the meantime, just let me touch upon it briefly. Arnel is a fiber of cellulose triacetate manufactured by the Celanese Corporation. I will sum up what I consider the five essentials of the dyer or weaver in obtaining the desirable characteristics in Arnel:

First, proper fabric construction.
Second, proper selection of dyestuff.
Third, proper method of dyeing.
Fourth, proper finishing and finishes.
Fifth and possibly most important, proper heat treatment.

Sectional Chairman Hennessey: I wish to thank everyone here and especially the panel members for their participation. The meeting is adjourned.

* EDITOR'S NOTE: Mr Fortess' paper, "Dyeing, Finishing, and Heat-Treating Arnel Triacetate", which was presented at the April 22nd meeting, was published on the August 1, 1955 issue of *Am Dyestuff Reptr* beginning on page P524.

News of the Trade

• Bishopville Finishing to Adopt L-22 Standards

The Bishopville Finishing Plant of Reeves Brothers, Inc, has announced its intention to finish certain textiles in accordance with American Standards L-22.

John E Reeves, president of Reeves Brothers, Inc, in making the announcement on September 14th in the offices of the National Retail Dry Goods Association, expressed tribute to the American Standards Association for its work and to the NRDGA for its substantiation of the standards.

Hang tags headed "Bishopville Finished" will be made available for synthetic fabrics finished under the L-22 standards. These will refer to the various standards that have been met with regard to tensile strength, color fastness, atmospheric fading, wash fastness, degree of launderability or drycleanability.

• Hilton-Davis Marks 1st Anniversary in Greenville

An open house to mark the first year of operation of its regional textile center at Greenville, S C, was held in mid-September by The Hilton-Davis Chemical Co, whose principal manufacturing plant is located in Cincinnati, O.

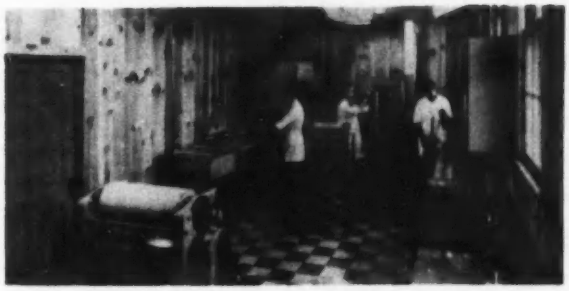
The event was attended by some 300 Southern textile dyers and finishers. The group was entertained at a cocktail party and was conducted on a tour of the textile service laboratory and distribution center. Hosts for the occasion were Nelson S Knaggs, vice president in charge of sales of Hilton-Davis, and S Y Stribling, III, manager of the regional center.

Guests inspected the facilities in the building, which was established in order to "serve the South's textile industry quickly, efficiently and economically," Mr Knaggs stated.

A highlight of the inspection tour was an examination of a "vital installation" at the Hilton-Davis center. This unit is a large, air-conditioned vault for storage of salt colors, to assure delivery of such colors in "mint-fresh" condition to dyers.

At the conclusion of the open house, the group had dinner at the Greenville Country Club and then viewed a full-length movie in color titled "Cairo to Fuji." The film was photographed by Mr Knaggs, a member of the Explorers Club, during the course of a 38,000-mile trip around the world. Narration was also supplied by Mr Knaggs.

The Hilton-Davis center in Greenville contains general offices, a modern service laboratory and facilities for storing, mixing, shipping and receiving various types of chemical dyestuffs. The latter include Spectrolenes, Spectrosols, naphthols, fast bases, fast color salts, Hiltone pigment and printing and padding colors, as well as optical brighteners, acid and basic dyes.



Color Service Lab at Hilton-Davis' Greenville, S C, Regional Textile Center.

• ACS Regional Meeting to Feature Textile Symposium

The Southeastern Regional American Chemical Society meeting scheduled for Nov 3-5 at the Columbia Hotel, Columbia, S C, will feature a symposium on "Diverse Products of Textile Research".

The following program has been arranged by Edward A Murray, consulting engineer, who will also deliver the opening remarks:

"Chemistry as Related to the Useful Properties of Textiles"——Milton Harris, Harris Research Laboratories.

"Biological Treatment of Mixtures of Highly Alkaline Textile Mill Waste and Sewage"——R H Souther, Cone Mills Corp, Greensboro, N C.

"Some Considerations in the Manufacture of a *Dyeable* Acrylic Fiber"——Edgar D Smith, The Chemstrand Corp.

"Partially Acetylated Cotton Fiber and Treatments to Facilitate Processing into Yarn"——William G Sloan, Edmund M Buras, Jr, Charles F Goldthwait, and Alton L Murphy, Southern Regional Research Laboratory.

• Paris Models Featuring Orlon Shown

A showing from the Paris collections featuring Orlon acrylic fiber was presented by the Du Pont Company in the Terrace Room of the Hotel Plaza in New York on September 21st. Dramatic and elegant costumes by Dior, Balmain, Lanvin, and other leading Paris couturiers were featured. Lavish creations in lustrous satins of "Orlon" and silk predominated, with jersey, fleece, faille, and velvet also shown.

• '56 Maid of Cotton Tour

The 1956 Maid of Cotton tour will include more than 30 cities in the United States and Canada, according to a recent announcement by the National Cotton Council.

Plans for a European tour will be announced later.

For the first time in its 18-year history, the 1956 tour will open outside the United States. The Maid will begin her six-month travels officially with a BOAC flight to Nassau, Bahamas, for an all-cotton fashion show at the Royal Victoria Hotel. The tour opening will follow a month's preparatory training period in New York. There the fashion representation will be fitted for a glamorous all-cotton wardrobe by about 40 of the nation's foremost designers.

Sponsors of the annual tour are the National Cotton Council, the Memphis Cotton Carnival, and the Cotton Exchanges of Memphis, New York, and New Orleans.

A major activity for the young cotton envoy will be fashion show appearances to introduce the season's pacesetting new cottons in each city she visits. Radio and television interviews, meetings with press representatives, and calls on mayors, governors, and other civic leaders to present the industry's good will greetings also will fill the Maid's schedule.

The Maid of Cotton will be accompanied throughout her travels by a tour manager and a tour secretary representing the Cotton Council.

The girl who is chosen 1956 Maid of Cotton will succeed De Lois Faulkner of Sallisaw, Okla.

• NEW PRODUCTS AND DEVELOPMENTS •

• New Bancroft Process

The development of a new process that, among other things, reportedly imparts durable patterns to any compressive material has been announced by W Ralph MacIntyre, president of Joseph Bancroft & Sons Co, Wilmington, Del.

The trade-mark name of "Tutored" has been assigned to a wide range of textile products to which this process is applicable. Other nontextile products which result from the process will be given another distinctive trade name at a later date.

Mr MacIntyre pointed out that, as applied to textiles, the importance of this development goes beyond the unusual surface effects which it makes possible. "It is significant to note," he said, "that these new Tutored fabrics are really an extension of our previous developments of wash and wear fabrics which were successfully introduced to meet the increasing demands from consumers for easy care fashions."

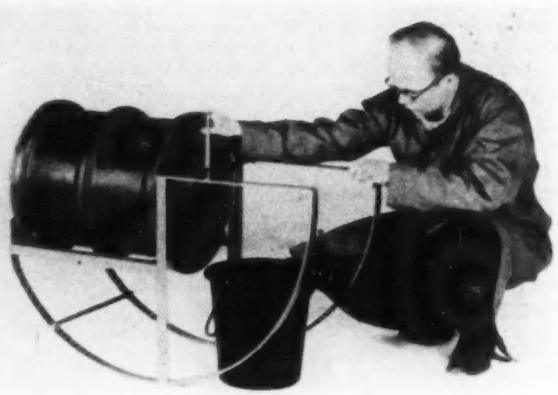
Patents are jointly held by two British firms, Bleachers' Association, Ltd and Bradford Dyers' Association, Ltd. However, the licensing, quality control and marketing phases of the new process have been assigned to the Bancroft Company and will be conducted by them and by the "Everglaze" Marketing Division.

Pointing out that the variety of decorative effects which can be achieved is almost limitless, Mr MacIntyre said that weight is not a limiting factor in this process. And the process is equally adaptable to fabrics made of natural and synthetic fibers.

The fundamental principle of the process is compressive shrinking of the fabric in selected areas. A ruffled or puckered effect is produced by the powerful contracting surface of a rubber sleeve to which the fabric is confined by a heated pressure roll, bearing a design. The two main controls are pressure variation and temperature variation. Pressure merely determines the degree of shrinkage which, in turn, produces the ornamentation effects, while the temperature gives permanency to the individual designs. The pressure varies according to the type of fabric being processed and the ultimate design desired.

• Tilter for Rubber Drums

New Figure 522 Tilter, designed for pouring from the rubber drums used for chemicals and solvents, has been announced by Nutting Truck and Caster Company.



NTCC Tilter

This tilter, because of controlled pouring, is said to eliminate spillage and waste. It is said to be easy to load, light weight, portable and requires little floor space. Nonslip clamp holds the drum securely. It features electrically welded construction. Overall width — 16¼"; overall length — 38¼"; approximate weight — 38 lbs. Standard Figure 522 fits the 13-gallon capacity drums (17¼" dia x 20½" high), but can be furnished for other size drums.

A circular, giving complete details, is available upon request from Nutting Truck and Caster Company, 1201 W Division Street, Faribault, Minn.

• Accosperse* Pigment Dispersions

A new line of pigment dispersions, designated as Accosperse dispersions, was announced last month by the Pigments Division of American Cyanamid Company. Available in yellow, red, scarlet, blue and green, the Accosperse pigment dispersions, which are stabilized with a protective colloid, are said to contain only alkali-resistant pigments in a highly deflocculated, well-dispersed state.

Among the principal advantages cited are high-color concentration, good package stability, good flow, easy streak-free mixing, and excellent resistance to flushing, coagulation, settling or bodying. Colors in this new line include Hansa yellow, toluidine red, Naphthol Scarlet, both red shade and green shade phthalocyanine blue, phthalocyanine green and Pigment Green B.

* Trade-Mark.

• Monolene

The Research Department of Wyandotte Chemicals Corporation, Wyandotte, Mich, has announced the availability of another new organic product, Monolene, Wyandotte's trade mark for N-(2-hydroxypropyl) ethylenediamine.

Wyandotte suggests that this new, clear, liquid product will be of interest to those concerned with reactions involving primary and secondary amine groups as well as secondary hydroxyl groups. Monolene may be used in the production of cationic surface-active agents and resin intermediates. It may also have application in the production of dyestuffs, textile-finishing compounds, insecticides, and oil additives.

Monolene is now available in pilot plant quantities. Data on the chemical and physical properties and laboratory samples are available from the manufacturer.

• TPCC Producing Benzonitrile

Tennessee Products & Chemical Corporation is currently producing developmental quantities of benzonitrile at its Chattanooga, Tenn, pilot plant under a new process developed at the Corporation's research laboratories.

Pilot-plant operations to date reportedly indicate that benzonitrile can be produced in commercial quantities at prices that would permit large-scale use by many industries.

Requests for samples and other data may be directed to the company's general headquarters, First American National Bank Building, Nashville 3, Tenn.

• Keltex S

Keltex S, an algin product designed to give measurably improved performance in strongly alkaline textile-print pastes, has been introduced by the Textile Department of the Kelco Co, 120 Broadway, New York 5, N Y, for use in both screen- and roller printing.

Keltex S is described as an increased-viscosity product that does not require the use of water conditioners or caustic buffers. It is said to be completely soluble in cold water without the aid of polyphosphates for solubility, flow character and good running properties. It is reported to be compatible with the normal concentrations of caustic soda used with Rapidogens, Pharmasols and Diagens, providing excellent performance with these insoluble azos with no need for caustic buffers. Kelco points out that the increased stability of Keltex S insures it against thinning.

Keltex S is said to be especially effective as a surface printing gum and to give improved surface color yield in screen- and machine printing. It reportedly provides a sharper mark and is said to be less dependent upon starches in screen-printing fast colors, including insoluble azos and soluble vats. Keltex S is also claimed to be excellent for printing Indigosols, acid, direct and acetate dyestuffs.

Kelco declares that, in addition to the product's ease-of-preparation (no cooking is recommended), Keltex S offers "extra viscosity for extra protection" by providing higher viscosities at the same concentration as regular Keltex.

Keltex S is said to be easily washed out of the goods after the printing and steaming operations. Its use reportedly promotes speedier removal of starch from fabrics printed with Keltex S starch blends.

• Solvitose HDF

Solvitose HDF is the brand name of a new starch ether introduced at the AATCC Convention by Morningstar, Nicol, Inc. Produced under patents of the W A Scholten Company of The Netherlands, the starch derivative is reported to be cold-water soluble, producing a freeze-thaw stable solution with no variation in viscosity.

Its main function is to contribute greater fullness to resin finishes, ie, glyoxal, formaldehyde, urea-formaldehyde, and melamine-formaldehyde types. It is claimed that both embossed and friction calendered finishes are greatly improved by its incorporation in the formula. It is especially recommended by its manufacturer as an excellent hand builder in crease-resistant finishes.

Solvitose HDF's value to laundry-resistant, durable- and permanent-type finishes is suggested in that it is said to be easily insolubilized by the above-mentioned resins.

A new laboratory report describing typical finishing formulas, using Solvitose HDF, has been prepared by the Morningstar Textile Laboratories. Other literature, discussing the theory and advantages of etherized starches is also available. Requests for samples and literature may be addressed to Morningstar, Nicol, Inc, 205 W Worthington Ave, Charlotte, N C, or 630 West 51st Street, New York, New York. Solvitose HDF is available in production quantities from both locations. Packing is in 100-lb bags.

NAMES IN THE NEWS

A Minich

O'Neil

F X Minich

Bogner

Heyden Chemical Corporation has announced the election of two new vice presidents — ARTHUR MINICH and THOMAS M O'NEIL.

Mr Minich will continue as president of Nuodex Products Co, Inc, a wholly owned subsidiary of Heyden, in charge of all Nuodex operations.

Mr O'Neil, vp in charge of sales and marketing for Heyden, will continue as vice president of Nuodex in the same capacity.

Over 65 guests and representatives of Stein Hall & Co, Inc attended a testimonial dinner on September 14th in honor of LEWIS PEABODY, who recently marked his 40th anniversary with the Company. The special ceremony was held at the Music Suite of the Biltmore Hotel in New York City.

An important figure in the establishment of Stein Hall's dextrine and adhesive trade in the New York area, Mr Peabody continues to remain active as a sales representative for the firm in this territory.

WILLARD S GILBERT has been appointed a sales representative in the latex and lotol department of the Naugatuck Chemical division, United States Rubber Co.

He will make his headquarters in the division's recently opened latex-compounding plant in Gastonia, N C.

FRANCIS X MINICH has joined Metro-Atlantic, Inc, which he will represent in sales and technical service in Georgia and Alabama. Mr Minich was formerly production manager of Southern Weaving Co, Greenville, S C.

PAUL BOGNER has been assigned to the Chicago District Sales Office of Emery Industries, Inc.

Prior to joining Emery Industries, Mr Bogner was associated with the sales organizations of Inland Wire Co and Charles Pfizer & Co.

C L PETERSON has been appointed vice president and general manager of the Brown Instruments Division, Minneapolis-Honeywell Regulator Company.

Mr Peterson, who had formerly been divisional vice president, will be responsible for the direction and co-ordination of operations in all departments of the Division.

CLARENCE E SORG, JR, former assistant district manager in International Salt Company's Buffalo office, has been appointed merchandising manager for all Sterling Salt products.

The appointment results from the expansion of the advertising and merchandising department. International Salt plans a broadening of its market and an intensified drive on Sterling Salt products.

ROBERT F STEVENS, formerly assistant technical manager, dyes, for E I du Pont de Nemours & Co, Inc, has been named sales supervisor, dyes and chemicals, at the Company's Philadelphia District office.

Mr Stevens' former duties have been assumed in part by JOHN M REMSEN, who has been named manager of the Lakes, Paper and Leather Section of the Dyes Division.

Replacing Mr Remsen in the Chicago office is RAYMOND L BURNETT, formerly of the New York office.

GORDON WALLACE has joined the Textile Chemical Department of E F Drew & Co, Inc as technical sales representative in Georgia, Alabama and Tennessee.

For the past few years Mr Wallace was employed by the Arkansas Company in a sales capacity.

GEORGE H LOURIGAN, 1954 honor graduate of North Carolina State College, has been awarded the $1,800 Carbide and Carbon Chemical Co Fellowship in the College's School of Textiles.

RICHARD W REAGAN is the 1955 winner of the Carbide and Carbon Chemicals Co Scholarship in the School of Textiles. This award is valued at approximately $400.

HAROLD E MONGOVAN, JR has been appointed sales representative of the Organic Chemicals Division, North American Cyanamid, Ltd. Mr Mongovan will represent the Division's Dyestuff Department in Ontario and Western Canada, with headquarters in Toronto.

Mr Mongovan was formerly sales representative of the Dyestuff Department of American Cyanamid Company.

ROBERT D HARVEY has resigned as general manager of Pepperell Manufacturing Company's Lindale (Georgia) Division because of ill health. He will, however, continue as a member of the board of directors of the Company.

G HOWARD SMITH, who has been affiliated with the Lindale Division for 26 years, has been named to succeed Mr Harvey to the general manager's post.

ROBERT J McCAMY has been elevated to assistant general manager, and ROBERT O SIMMONS moves up to the position of superintendent.

RALPH M CERAME, a senior at the Philadelphia Textile Institute, is to be the first recipient of the Charles W Carvin, Sr Scholarship Award sponsored by the Textile Veterans Association.

The Carvin Scholarship is awarded to a deserving member of the junior class to finance his senior year and is valued at two-hundred and fifty dollars.

C EUGENE ROWE will join Dan River Mills, Inc, as secretary and treasurer effective November 1.

In his position as secretary, Mr Rowe will fill the post formerly held by R P LYNN, who has resigned. He also will take over the duties of the treasurer's office previously administered by W J ERWIN, Dan River Mills president.

The new company official has had a long career in the textile industry, having joined the Burlington Mills organization in 1935. In 1946, he was elected controller, and from 1947 to 1953 was Burlington's treasurer. Most recently, he has been associated with the Baldwin Piano Company in Cincinnati, Ohio, in the position of controller.

The Division of History of Chemistry, American Chemical Society, honored SIDNEY M EDELSTEIN, division secretary, as he began his eighth term in office, at their September meeting in Minneapolis, Minn.

The chairman, EDUARD FARBER, after praising Mr Edelstein, president of Dexter Chemical Corp, for his work during the past seven years, presented him a medal commemorating the 100th anniversary of Liebig's work in organic chemistry at Giesen.

Mr Edelstein has added this medal to his library, now housed in Englewood, N J.

J M COLE and J H MATHEWSON have been appointed product managers and GEORGE TRIGAUX has been appointed assistant product manager in the Fine Chemicals Division of Carbide and Carbon Chemicals Company, a Division of Union Carbide and Carbon Corporation.

Mr Cole will be responsible for the market development of chemical intermediates; Mr Mathewson will be responsible for the market development of Flexol plasticizers and stabilizers for vinyl resins; and Mr Trigaux, who is being transferred from the Company's South Charleston plant where he was area supervisor in charge of one of the production units, will assist Mr Cole.

HERBERT SCHOENFIELD, recently of Velsicol Chemical Corp, has rejoined Emulsol Chemical Corp, Chicago, as manager of technical sales service.

Monsanto Chemical Company's Inorganic Chemicals Division has appointed RALPH S HOOD an independent sales representative for Syton and the machinery for the application of Syton to cotton fibers.

Mr Hood, who has been with Monsanto since 1930 and who was active in the research and development of the machinery for the application of Syton, resigned from Monsanto on September 30 to establish an independent sales agency.

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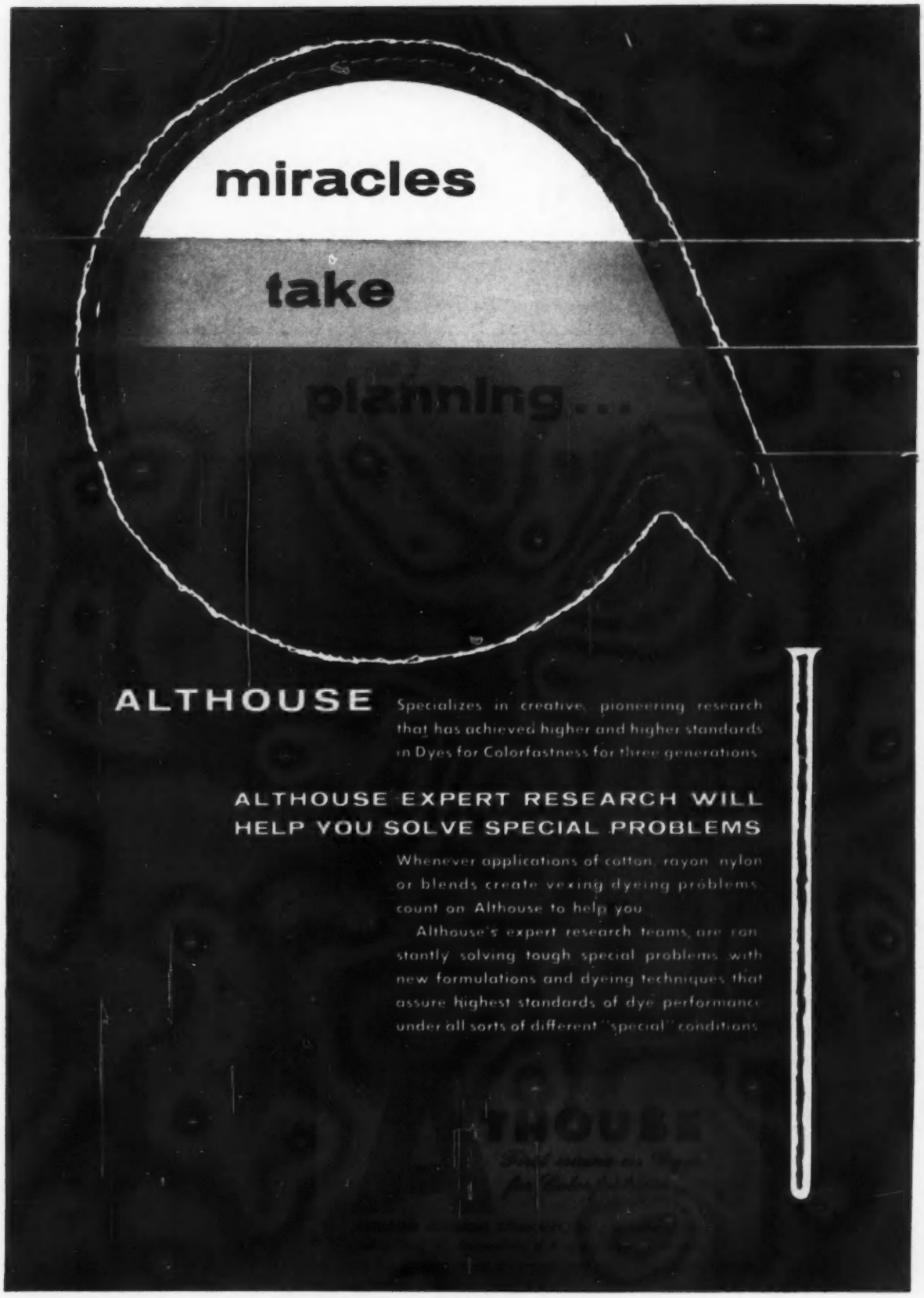
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POSITION WANTED: B.S.T.C. degree; 3 years' experience in combined mill and laboratory position. Married veteran, 24 years of age, desires responsible position with progressive concern which will enable fuller use of capabilities. Write Box No. 104.

WANTED: LABORATORY TECHNICIAN-COLORIST: Cotton package dyehouse in North Carolina. Give details of background and salary desired. Write Box No. 989.

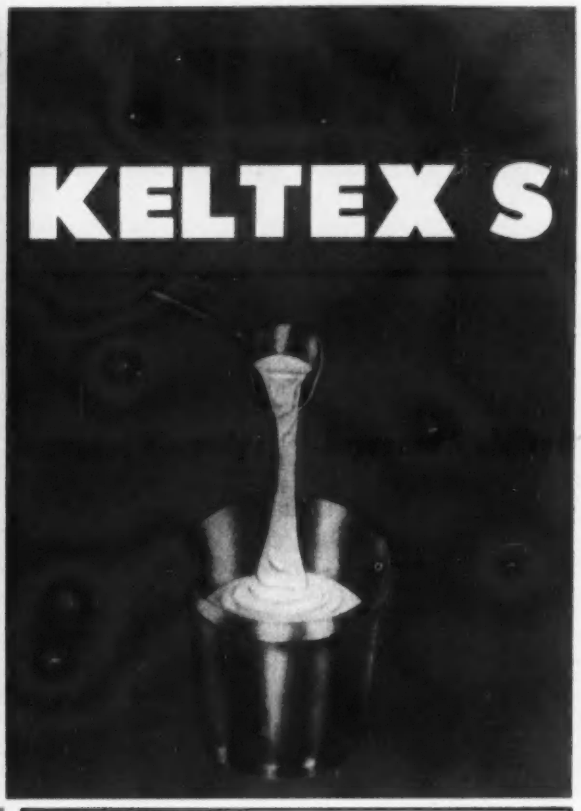
POSITION WANTED: TEXTILE CHEMIST AND COLORIST. Director of dyestuff application laboratory. Expert in standardizing, color matching and testing of all classes of dyes on all fibres, dyeing and printing. Considerable experience in technical sales and administration. Seeks responsible position. Will consider sales. Write Box No. 983.

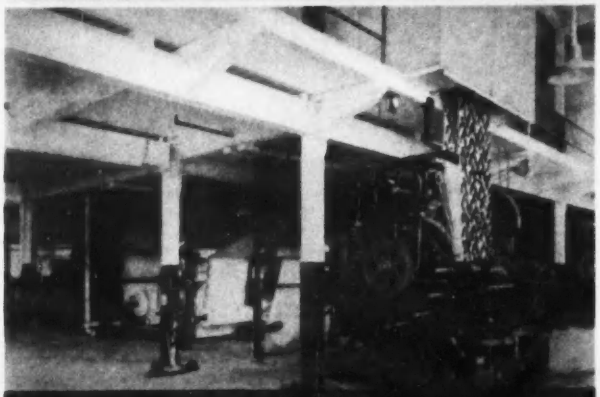
CHEMICAL SALES ENGINEER wanted by American firm in Japan representing prominent U.S.A. manufacturers of all types industrial chemicals including dyestuffs. Must be experienced and qualified to sell to customers and direct native sales force. Write giving references, resume of education, experience, salary expected. Write Box No. 990.

POSITION WANTED: 30 years' experience as head dyer and plant manager on piece goods, dyeing on vats, sulphur, diazo and direct dyeing. Desires position as plant manager or practical expert by dyeing or chemical house. At present employed. Write Box No. 991.

POSITION WANTED: If you require an aggressive person with imagination and know-how for Technical Service Development, or Technical Sales in any branch of textile industry, please contact this individual. Ten years' experience as laboratory supervisor, dyer, finisher, management. Textile college graduate. Write Box 980.

POSITION WANTED: Laboratory Technician and Colorist, with mill experience, technical background. Interested in a position which will enable fuller use of capabilities. Veteran, married, responsible. New York or New Jersey preferred. Write Box No. 984.





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CHEMIST WANTED: Independent commercial laboratory has unusual opening for competent chemist experienced in wool technology. Through knowledge of wool preparation and familiarity with quality control techniques essential. Plans for expansion of laboratory offer exceptional opportunity to person possessing resourcefulness and executive ability. Salary open. Our staff knows of this advertisement. Write Box N. 993.

POSITION WANTED: MANAGER. Age 44, 25 years' experience of preparing, dyeing and finishing rayon, cotton and mixtures in piece goods. Terminating South American contract. Available for interview in Britain in December. Write Box No. 994.

AVAILABLE: FOR QUALITY CONTROL AND DEVELOPMENT WORK in textile processing. Graduate chemist with many years' experience in textile processing, trouble-shooting, chemical demonstration and sales. Northern New Jersey or metropolitan area preferred. Write Box No. 995.

WANTED: LABORATORY ASSISTANT with one or two years experience in textile testing and application work. Experience involving test dyeing would also be pertinent. Location — Northern New Jersey. Degree not required. Permanent position with excellent opportunity for advancement. Write Box No. 996.

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WANTED: SALESMAN — with plant or sales experience in textile chemicals for South. Send resume. Write Box No. 102.

WANTED: Sales trainee with technical background for position leading to field sales or sales administration. Send resume. Write Box No. 103.

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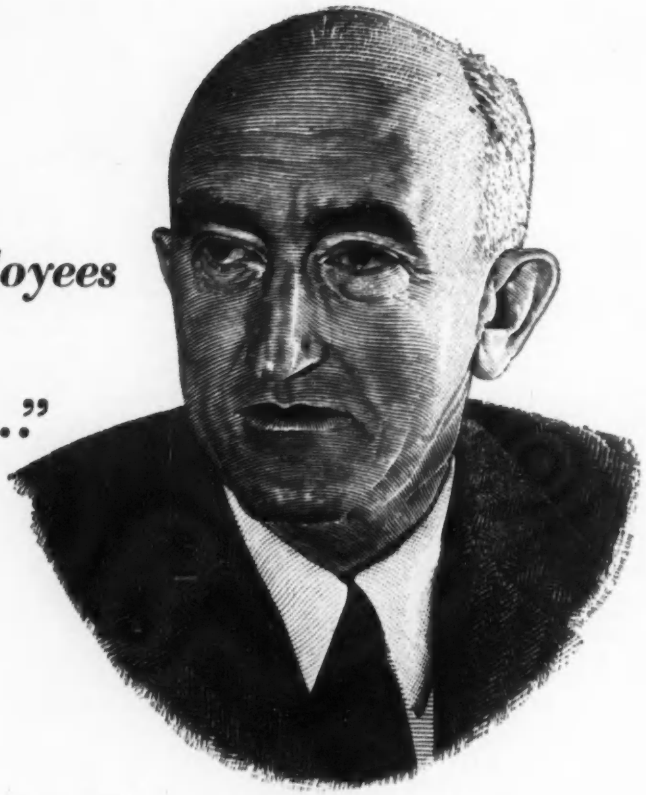

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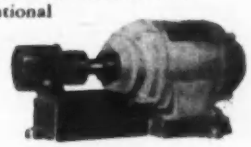

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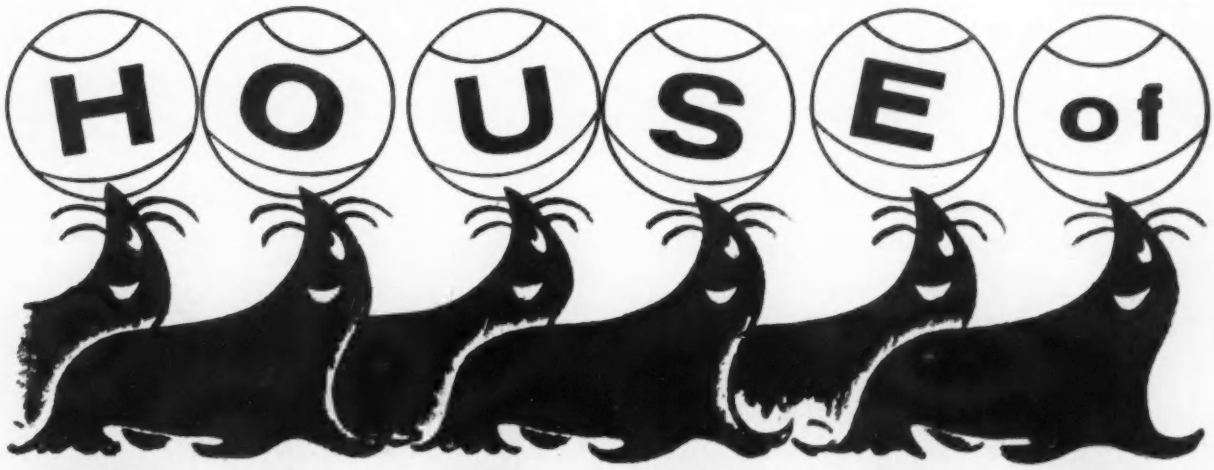

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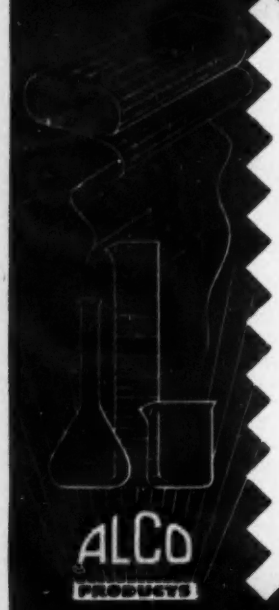

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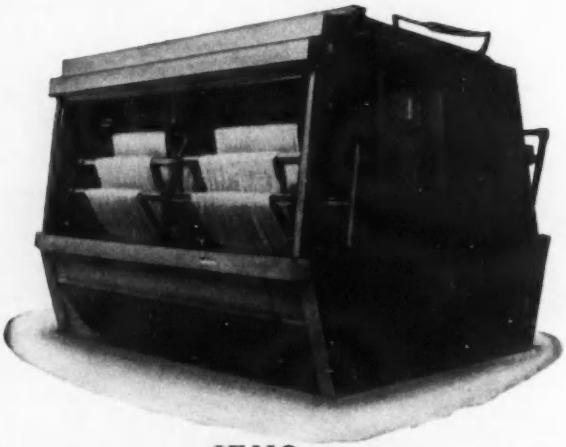

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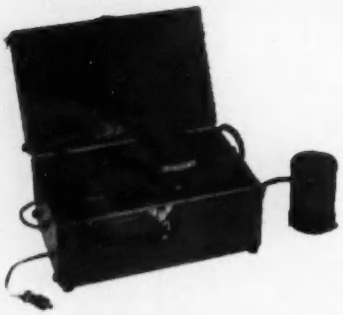

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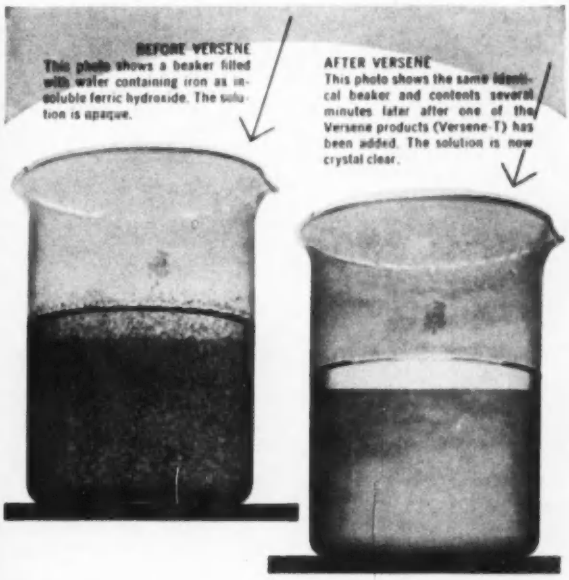
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The illustrations give you a visible demonstration of Versene's chelating power over metals in solution. Versene makes them vanish. They are still present but can no longer be seen or detected by ordinary chemical procedures. Stability is inherent and reversion does not occur. This is because chelation is complete and the metallic ions are held harmless in the powerful coordinate bonds of the Versene itself.

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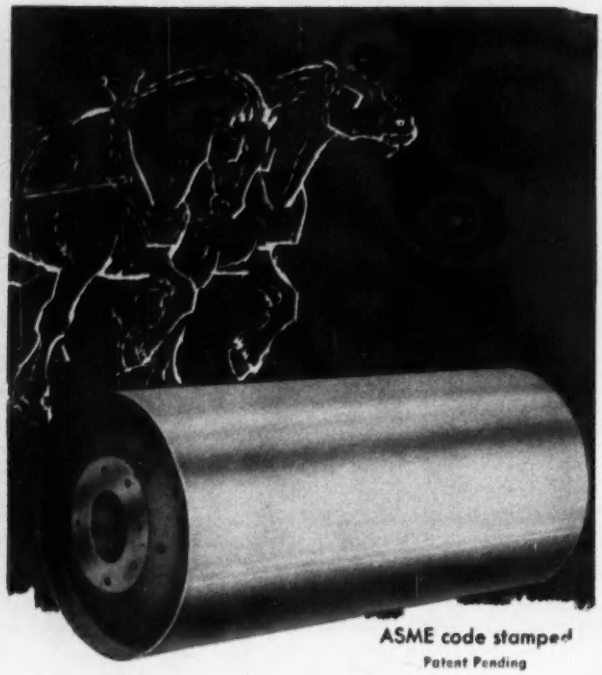

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